



News updates, features, forums; www.computerworld.com July 14, 1997 - Val. 31 - No. 28 - 110 pages - \$3/Copy \$48/Year

Enough is enough!

 Key corporate accounts yow to phase out Macs finally giving up the ghost after By Kies Cirard the 'troubled company last

THE SEEMINGLY Impossible week ousted Chairman and CEO Gilliert F Amelio - nust has hannened. Some key, hardcore Apple users said they are er months after he sowed that

Apple inside

Time line Apple stumbles its way out of the corporate user picture, page 16

Ex-CEOs on parade A history of musical chairs in capricious Cupertino, page 16

How bad is it?

ber stats paint a bleak picture 2000 M Misery loves com from Apple alum Del Yoksam, page El

In internews last week with Commorworld, a half-dozen corporate Apple users, with more than 10,000 Macintosh seats, said they are phasing out or expect to drastically reduce the number of Macintoches then use over the next several years For them, Amelio's departure is the final nail in Apple's coffin As the company floundered Femural page 16

Apple Computer, Inc.'s pro lerns were "definitely finable."

Suite enticement: CA to give away

management tools

By Patrick Dryden AT THIS WIRE'S CA-World '07 user conference, Computer As-In interviews last week, a sociates International, Inc. will ... said they are alpush for the widespread adopready planning a tion of Unicenter TNG by giving gradual transition away the underlying parts as a lo NT Workstation

framework Some analysts predicted that CA's surprisingly bold strategy could slash the cost and com plexity of managing far-flung chent/server systems CA. name 95 Internet flames scorch businesses

66 mommy Hilfiger makes racist comments on Oprah." "Beware of GE microwaves." "Disney is antifamily." Every-

where you look on the Internet, someone is badmouthing a company or product - maybe even yours. Cyberspace is full of false rumors, misinformation and diatribes from disgruntled consumers. Companies that don't monitor this Internet traffic and respond deftly may be headed for a public relations disaster, McDonald's and Ford, for example, found that repairing a 'net-damaged reputation can cost millions. in Deeth, com 75

Win 95 users to get NT nudge

By Laura Di Dio and April Jacobs erating systems. But NT s.o will THE PUSH IS ON - well. address most of those issues.

When Windows NT 5.0 ships dozen Fortune 1.000 users Microsoft Corp. will launch a full frontal assault

to upgrade enter-From Windows 95 to NT Workstation on the desktop, according to compa-

ny executives. Such a mieration from Windows 95 to NT 4.0 rsn't feasible today

NASA's J. Briscos Stephens is concerned about avail because of incomability of applications

nath cision to go with Windows NT as its corporate operating system isn't surprising. But NT nudge, page 98

5.0 and will do so

willingly, provided

Microsoft delivers

a smooth upgrade

"Microsoft's de

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SERIAL PUBLICATIONS



Prices are continually dropping, but

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Our Pride and Joy

G 1TEH 1Y2000

Compaq cuts prices, offers build-to-order

By April Jacobs New York

COMPAQ COMPUTER CORP. is slashing desktop prices by as much as any and moving to a cost-saving, build-to-order manufacturing system.

Houston-based Compaq also is putting more feet on the street to sell into corporate accounts. It will use salespeople from Tandem Computer Corp. in Cupertino, Calif., which Compaq is merging with.

Compaq is menging with.

Compaq's moves are a response to inroads made by Dell

Computer Corp., a lower-priced rival. Dell uses a cost-effective, direct-sales approach.

"Compaq's customers are going to like the lower prices, and in theory they aren't going to see anything different. So in terms of price and performance, they're going to like it," said Roger Kay, an analyst at International Data Corp. in Framing-

For example, Compaq's Deskpro 2000 entry-level PC will cost \$999, a 16% reduction. It features a 166-MHz Pentium processor, a 1.2G-byte hard drive and 16M bytes of memory.

Gompaq last week rolled out y new Deshpro 2000 and 4000 models, which will be the first offered in the build-to-order program. That will let users choose from a variety of standard configurations that will be built at Compaq's factory as soon as the order is placed. By year's end, the company expects to be able to fill orders within five days.

compared with up to neveral weeks, now if products aren't available from resellers. In theory, build-to-order will let Compaq cut its costs by reducing the amount of inventory resellers hold.

Users will place orders as they always have, through resellers and Compaq sales representatives. And the machines will still be delivered through Compaq's

resellers.
"Whether they're
going to be able to
meet Dell's prices
over the longer
term is a question,
because Dell's
been very quiet."

Kay said.
"I think what this does is to drive another stake into the heart of the traditional reseller channel," said Brian Brumit, a director at Coopers & Lybrand LLP in Hartford, Coinn, and a Compac

But Brumit saidaghe move could be difficult for Compaq as it tries to easentially provide both in-stock computers and

build-to-order models through the reseller channel.

The company also will offer financing and leasing to customers later this summer. Configured-to-order machines, which are highly customized.

will be offered in the third quarter.
"I don't understand what exactly the value-add proposition here is for the resellers," Brumit

Compay's plan to incre sales and reduce cost

 Build-to-order now
 Configure-to-order desktops later this year

Up to 22% price cuts on Destpro PC line Double its sales and services staff from 4 000 to 8 000

Brunni's sentiments were echoed by three analysts at Nikko Research, Inc. in New York. They said the move would please customers, who would like the lower prices, but might cause pain for smaller resellers unable to make enough profit unable to make enough profit

from selling Compaq machines. Compaq CEO Exhand Pfeiffer said the company's plans shouldn't cause the same type of confusion and anger that occurred earlier this year among resellers when it first announced its plans to abor its dis-

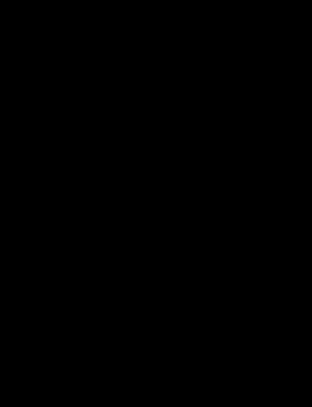
> The new plan has been modified in several ways. The company hasn't company having resellers assemble any hard-

ware on site and has softened statements that implied it would sell directly to some large accounts. Cl

Compaq's sales grew to \$5 billion for the second quarter of 1997, which ended June 30, 1997. That was an increase

of 25%, compared with the same quarter lest







w 1996 IS grads, she es, savey and wants it all, now. it park. Software, page 53

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HEWS

- A third party sweeps into virtual sto age with a disk array that supports IBM and Storage Tek machines
- ape repackages SultaSpet makes management of servers easier. AOL deal marks the end of the era
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THE INTERNET Web surfers off-load research time to

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- ase agencies sign \$50 million deal to buy software electronically, saving

THE ENTERPRISE NETWORK Upors seek to consolic

- mation, but mult ns hamoer their best ef

MASA developers use Java to get Mars occurres to scientists and the public.

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Compag cuts prices, offers build-to-order

By April Jacobs NEW YORK

COMPAQ COMPUTER CORP. IS slashing desktop prices by as much as 22% and moving to a

cost-saving, build to order manufacturing system Houston-based Compaq also is putting more feet on the street to sell into cornorate ac-

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Compaq's plan to increase sales and reduce costs:

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- desktops later this year Up to 22% price cuts on Designo PC line
- · Double its sales and services staff from 4.000 to 8.000 worldwide

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The new plan

has been modified

Misplaced keys

FIFTH

Pentium II ready for servers

announcement will do that for

Intel," she said. "Obviously,

they want to play in the enter-

prise level, but until they had

ECC, the Pentium II would be

just another processor to many

Analysts expect hardware

windows such as Hewlett-Pack-

ard Co. and Dell Computer

Corp. to announce Pentium II-

based systems as early as this

week Other wendors including

Compaq Computer Corp. proba-

bly will wast until the chips ship

Sources close to Dell con

commanues.

ECC memory necessary for stability

By April Incobs

INTEL CORP. plans to announce its Pentium II processor with ECC memory this week, bringing its latest chip offering

up to speed for the server mar-Error Checking and Correcting (ECC) memory is important because it belps safeguard sessing errors that could brane

down a server 'Customers have been wanting ECC memory because they now it will prevent errors. And if they don't see it they tend to wait longer to purchase any sys tems until it's available," said Jennifer Munson, an analyst at Workgroup Strategic Services in Portsmouth N.H

ship the new PowerEdge 420 server as a departmental, mid-"Intel will always be adding range server. It will succeed the faster processors to its lineum PowerEdge atoo, a dual proces-But as far as developing a rounded core of offerings, thus sor Pentium Pro Server.

The PowerEdge 4200 will feature speeds of 233, 266 and too MHz. Standard features will be redundant cooling, botpluggable disk drives and ECC ory. Hot-pluggable redu dant power supplies and RAID support will be optional. The server features the same type of chassis as the rack-mountable 4100 and 6100 PowerEdge

When Intel initially released the Pentium II this spring - which features speeds of ass. a66 and 300 MHz many major hardware vendors lined up with desktop machines to support it. C

in full volume, they said. firmed that the company will Virtual tape servers save real money

By Tim Ouellette

VIRTUAL TAPE Servers are be coming a reality, offering users a way to slash their tape storage

Sutmyn Storage Corp. in Santa Clara, Cabif., this week will begin shipping Scimitar/ VTS. It is a bundle of disk arrays with software that places the most-used tape data on disk so it is at users' fingertips, and that crams as much data as possible into each tape cartridge

IBM is already shipping its Virtual Tape Server, and Storage Technology Corp., the leading high-end tape systems vendor. in Louisville, Colo., will ship its VSM product next year ICW.

April 2 Scimitar differs from those offennes because it works with existing tape cartridges in users' tape libraries and silos instrad of requiring users to buy the newest technology or only certain vendors' products.

For example, IBM's Virtual Tape Server requires users to have the latest Magstar tape cartridges and libranes. And with VSM, users will need to use newer StorageTek tape products.

The influx of new virtual tape products promises to give users faster access to data stored on tape and more efficient use of their existing tape systems.

Most tape cartridges today get only partially filled, requiring ore time-consuming robi tape mounts and more floor space for new tape libraries to hold the ever-growing number

"Virtual tape is a slam dunk for us," said Dan Kaberon, manager of computer resource man agement at Hewitt Associates, Inc. in Lincolnshire, Ill.

Hewitt, the largest outs human resource management services in the U.S., is testing Scimitar to control an evergrowing population of tapes, esimated at 270,000 right now "We are looking to this to be a media masher, we want to save floor space," Kaberon said. "Previously, instead of adding human operators (to manage tape inountal, people boug

tape robots. Now, instead of adding additional robotic systems to handle all the tape, users can use virtual tape servers." Robotic tape systems can cost millions of dollars, whereas vir-

tual tape systems most likely will range from \$200,000 to

Scimitar works with any tapes in place at a user's site by attachine through the mainframe (mainframe library management software is included with the packagej to any MVS-com-

patible tape system instead of connecting directly to a target tape system. "If users can turn aro take existing silos and cartridges that they have today and outperform the speeds of newer tape cartridges and libraries, that

rould be worthwhile for them. said Paul Wolfstaetter, an analyst at Gartner Group, Inc. in amford, Conn. Virtual tape is well-received by users because they have seen mainframe disk prices drop to less than \$a per megabyte and emance increase drastical-

ly, while tape technology hasn't changed as fast. That is true even though more data - three times more, according to some industry estimates - is stored on tape than

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THAT GOT SCANNED INTO THE DOCUMENT.

Time not on Microsoft's side

Overhaul of SQL Server not due until 1998, leaves door open for Oracle

By Crair Stedman

MICROSOFT CORP.'s assault on the corporate database market is running up against a tough foe: time. An initial beta-test version of

SQL Server 7.0 - a major overhaul designed to beef up Micro soft's database so it can scale to enterprise levels - was released late last month. But hopes that the new database would be ready for production release this war have evaporated.

In recent months Microsoft has hedged its bets on shipping SQL Server 7.0 between late this year or early next year. But now it is targeting "sometime in the first half of 1998," said Jim Ewel, SQL Server group product manager at the Redmond, Wash., company. An earlier release "is highly unlikely at this

point," he said. The extended delivery schedule shouldn't hamstring Microsoft's proven ability to sell SOL Server to departments and small businesses. But it gives Oracle Corp. more time to grab database users who are building cor-

Hoping to break out of its NT, sasd Carl Olofson, an ana low-end shackles, Microsoft this quarter plans to ship an enter-

lyst at International Data Corp. (IDC) in Framingham, Mass. And Oracle has been doing a lot of grabbing: Olofson said Redwood Shores, Calif-based Oracle last war "at least pulled even" with Microsoft on NT database revenue. "Microsoft has been selling futures against

reality at the upper end of the database market, and that's where the money is," he said. Texas Guaranteed Student Loan Corn, uses SQL Server for

some "relatively simple" depart mental applications because it is so easy to administer, said Andrew Bergstrom, assistant vice president of new products and services at the nonprofit insurer of college loans in Austin. But in standardizing on NT

for all future development, the company chose IBM's DB2 database to run its industrialstrength applications, Bergstrom said. SQL Server wasn't robust enough to compete against DB2 and Oracle when the decision was made last year, ware was promised

that can handle more processors

Sobins, will so much further by

increasing the database's 200G

byte capacity limit to a terabyte and adding key scalability fea-

tures such as parallel querying

Microsoft also is building data

warehousing features in to SQL

Server 7.0 and developing a

and full row-level locking.

for beta-testing this quarter, but Ewel declined to comment on its status prise version of SQL Server 6.5 SOL Server 7.0 will mean faster pro-SOL Server 7.0, code-named

cessing and more uible querying for users, said James Xu, wice president of technology at Aristotle

Publishing, Inc. in Wa-Aristotle runs a voter information database on SQL Server 6.5 and expects to start testing

companion online analytical Sphinz this week. Xu said he wants to be able to Plato. The decision-support softrun more complex analytical

queries against the database, "but I "but 1

really avoid doing that now." But a 1998 release date for Sphinx is un derstandable gives the amount nges that Mi-roft is making he said. "They

have a lot of worl on hand Even after SQL Server 7.0 sbios, it could be held back at enterpri levels while users wait for NT to

mature, said Herb Edelstein, a

consultant in Potomac, Md. Cl

Have I got a fix for you!

n IS manager was approached by a slicktalking salesman who claimed his company could convert any program at the manager's company for \$100.

"It sounded like a backyard operation." the manager said.

Welcome to the sleazy side of the year 2000 industry, where some companies are trying to cash in on a \$600 billion market.

For tips on separating the reputable from the incredible, turn to Managing, Page 59

Netscape packs more into its SuiteSpot 3.1 servers

By Bark Cole-Gemolski NATSCAPE Communications Corp. is trying to make its server

line easier to buy and manage The company this week will announce new packaging for its SuiteSpot 3.1 servers. It will of-

fer standard edition and professional edition bundles instead of making users purchase the nine servers reparately. SuiteSpot 1.1 will also include

a new management console that lets administrators of World Wide Web sites and intranets replicate changes across all nine bervers

Broad support for the Lightweight Directory Access Protocol (LDAP) is also on tap in the upgrade, allowing sites to share directory information more easily, sources said.

"This is good for us because we're planning to use LDAP extensively," said James Martin, webmaster at Chubb & Son, Inc. in Warren, N.J.

Several Netscape servers pow er the insurance company's in-

when those servers can talk to each other via LDAP," Martin Netscape, in Mountain View, Calif., declined to comment on

ALL THAT AND MORE SuiteSpot v.s. due in the fourth quarter, will include a beta ver-

transt "It will be much niver

sion of Compass Server. Based on a user profile. Compass Server filters information on corpo rate intranets and builds a document index that may be searched.

SuiteSpot already includes Calendar, Certificate, Collabra, Directory, Enterprise, Media,

Messaging and Proxy servers. Along with the upgraded servers, Netscape is expected to an-nounce plans to offer its products through a group of resellers Currently, most customers buy Netscape software

via the Web, according to Harry Fenik, vice president of Zona Research, Inc. in Redwood City.

Sun boosts high-end workstations

By Jaikumar Vijayan

SUN MICROSYSTEMS, INC. this week will bolster its position in the high-end Unix work-

station market with a new box The company will extend its desktop lineup with a high-end system based on the 300-MHz UltraSPARC chip

The system is a single-proces sor version of the Ultra a workstation announced earlier this year and will feature builtin Gigabit Ethernet support. Sun's Creator three-dimension-

al graphics and optional support for a high-definition television

Prices for the system, which is being positioned beyond the highest end of most Microsoft Corp. Windows NT systems et at \$21,495 for 128M bytes of memory and up to AG bytes of hard disk space.

Sun is also expected to an-nounce a Peripheral Component Interconnect (PCI)-based I/O architecture that will replace its existing S-bus technology.

The move to the industry stendard PCI architecture means Sun can now use the same standardized, low-cost PC components that Windows NT vendors use to build their work

Throughout the middle to the end of last year, most Unix wendors were like deer caushs in the glare of Windows NT's headlights," said Tom Copeland, an analyst at International Data Corp. in Framingham,

"Now nome are finally start ing to respond," he said.

Price of Web poker just went up

windom! three years and was that

any company, no matter how

small, could go online and find

its customers around the world

Now it seems every company, no

· Companies to pay millions for high visibility By Mitch Wagner ed its millionth registered site in the .com domain. The common

LAST WARE'S multimilli dollar deals designed to bolster the visibility of World Wide Web sites may mark the end of an era of shoestring online budgets. In the early days of the Inter-

net, a corporate Web site could be built with just a few information systems managers who rked evenings and weekends using secdhand equipment Now there are so many sites online comorations are starting to reness plans and are making big invest-

ments in staff, time and money to find their customer base. Online bookselles Amazon.com, Inc. and florist 1-Soo-FLOW-ERS. Inc. last week

E VALUE OF GATEWAYS

The deals are part of a trend

they have to devote extensive reerces to attracting customers

online. Many firms will choose

to pay big bounties to America ne and the major search en-

ging as companies find

matter how large, is having diffi-**FRFF**!!!

Disney is making cross-marketing deals with

culty finding its custo promotion deals with major onand vice versa - online line services and ultrapopular To resolve that problem, elec-Web sites. Their goal is to levtronic-commerce sites are turnerage the huge viribility of ing to the major search engines those services and sites to get and commercial online services Amazon.com and 1-Soo-FLOWin an attempt to buy publicity. ERS in online consumers' faces. Because those sites consistentrank among the most popu-

r sites on the Web, online merchants are cutting deals and paying big bucks to guarantee publicity on America Online. Inc's Web site and the search

plant company already has with America Online. The company expects to generate the engines run by Excite, Inc. and money from its marketing bud

gines because those companies omers, and they can deliver those customers for other com panies, said Chris Stevens, an alvst at Aberdeen Group Inc., in Roston, "There are a few gateways emerging that are con-trolling a lot of the traffic on the By Stewart Deck

Internet," Stevens said. The Internet is slowly getting to the point where it has a critical mass of audience, and you have to have resources of a rtain) scale to reach that audience," said Jeff Morris, senior vice president of new media and technology development at Showtime Networks Inc. in Many York

The problem is noise, web sters said. Everyone can go online, and everyone is. Hemdon, Va.-based Networks Solums. Inc., which handles domain registrations (see related story, top right), recently report-

Yahoo Inc for example Even the The Walt Disney Co with one of the most recog nized trademarks in the world has marketing deals with Excite in Redwood City, Calif.: Ly-

cos. Inc. in Marlboro, Mass.; and Yahoo in Mountain View Calif., among other popular on line sites, leff Bender, director of consumer advertising at Disneyonline, said Disney's brand

may be well-known. but its for-pay, Internet-based online ser vice ign't Disney is advertising

the service through conventional media, but many of the customers it reaches don't have online accounts To find Internet users. you look to the Internet - and you look, especially, to Excite, Lycos and Yahoo, which are the sites many online

users visit first and

stoften Rendersaid 1-800-FLOWERS last week announced a four-year contract with America Online, in Vienna, Va., to be the exclusive seller of flowers and plants on the company's online service. The contract is worth a mind-bend ing \$25 million. It is a continum of a three-year contract the Westbury N.Y. flower and net gains hard to gu

to been it on, by it sin ring your traffic at a o

...

and a cross-promotion car paign with Yahoo for undi et, fueled by the more than Saco million in sales it expects to do online in that period. Amazon.com also announced last week a multimilion-dollar advertising contract with Excite

closed sums. The deal will be a marketing expense covered by online sales and capital raised in its recent stock offering, (1)

Ease of navigation key to successful E-malls

SOME INTERNST Shopping center experts say online mails can thrive without expensive billboards. It isn't necessary to shell out top dollar for prime real estate to attract shoppers. but it is vital to keep one thing in clear focus: the comfort of the

"Anyone who gets into this has to realize it isn't going to be cheap or easy, but it can be done," said David Taylor, an analvst at Gartner Group, Inc. in Stamford. Conn. "But you can't just string together storefront links and expect shoppers to show up." Taylor counseled de-

velopers to build a solid infra structure with secure payment canabilities and messaging features for quick communication Complex shopping sites need a sense of transaction complete ness and consistency, agreed D. Navin-Chandra, chief scientist at Perot Systems Corp.'s electronsc-commerce busin

unit and a former mail develop er at now-defunct Nets. Inc. An online mall should also clearly define what it has, Navin-Chandra said. "If people can't understand what is available, they won't come back. Sites such as Amazon.com or Travelocity.com have done a great job of explaining themselves and

are successful," he said. With planning, online shopping centers can create a feeling that is difficult for their real world, brick-and-mortar counterparts: a sense of community. Craig EBerbroek, director of the electronic-commerce division at Lockheed Martin Corp.'s Internet Business Solutions group, said these communities can be built around subjects such as hobbies (sports or col-

iectibles, for example) or highquality merchandiss. Chat features and message forums where shoppers can compare experiences and purchases provide the same function as a real-world bench or sidewall cafe: They allow visitors to pause, spend a few minutes and look forward to returning Ellerbrook added that virtual malls can cross-promote items in other stores and set up complex customer loyalty peograms

sing customer shopping data) that the stores on Main Street

can't approach. Online neon is one feat that can turn visitors away from a mall. Too much graphic flash and dazzle can take too long to download and make rate nav tion confusing, according to Mi chael Katz, a senior vice presi dent at Boos Allen & Hamilton Inc., a New York-based consul

We only selected ven that had secure payment facilities and high-quality products," said Tuck Rickards, founder and CEO of Virtual Emporium online mall of 180 stores and more than 5 million products. "By putting products first and building in ways for the customers to quickly post their opinions and their evaluations, we think we'll be successful," Rick-

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Users cool on Exchange upgrade

> Scalability lauded, but key features missing

By Barb Cole-Gomolski

MICROSOFT CORP. Exchan sites will get a more scalable server when the Osmium release ships later this war. But depubacks - such as the lack of support for Hypertext

Markup Language (HTML) forms in the Outlook client or an enterprise directory - will likely linger long after the upgrade is out the door

The Osmium release of Exchange, due by year's end, is expected to let companies run more users per server because it emoves the current 16G-byte limit on mail storage. It also has improved support for Internet protocols and a new feature, called Dumpster, that will make it easier for administrators to restore messages that have been deleted, according to beta test-

Users applauded these enments because they can save administrative overhead and in the case of the boosted mail storage, reduce the number of servers needed. But a handful of sites among the 100 early beta testers of Osmium were decidedly bykewarm.

"From what I can see, there won't be that much (in Osmium] for us," said Archie Reed. design architect at Charles Schwab & Co. in San Francisco. an Osmium beta site that is

moving II,000 users to Ex-Osmorn's support for Inter-

net Message Access Protocol 4 (IMAP4), which allows discon nected users more flexibility in accessing mail, and the Lightweight Directory Access Protocol aren't that important to

Schwab at this time, he said Schwab's main priority is to get a more manageable directory. Reed said. Exchange currently has its own directory, which Reed described as "inflexible Users and analysts said a remedy won't appear until Microsoft's Active Directory ships with Windows NT 5.0' some

time next year. Tom Austin on anabert at Gartner Group. Inc. in Stamford, Conn., said he knows of two large Exchange shops that have frozen their deployments and won't move forward until Microsoft replaces the Exchange directory with Active Directory.

OSMIUM ENHANCEMENTS

8 Support for IMAP4 8 Dumpster that lets administrators recover deleted

1 Unlimited storage on messaging servers g Updated Outlook Web client that lets users send

attachments and schedules

"Some of these customers need to manage multiple domains remotely, and that (capability) just isn't there today," he said. Similarly, some sites have put application development plans on hold because they rejected the Exchange Forms Designer

tool as proprietary and weak. Instead, they are waiting to build groupware applications for Ex change, using a HTML-compliant version of Outlook. Microsoft officials said the company is adding support for HTML forms in Outlook but

hasn't yet set a ship date Not all sites are unmoved by Osmium, bowever, Bechtel Group, Inc. in San Francisco passed on the Exchange 5.0 up grade but can't wait to get Oser um in-house, said Chris Zeck, corporate infrastructure manager. Zeck said the 16G-byte storage threshold has limited the scalability of the firm's servers We think Osmium I with its uplimited storage] will help us avoid some additional [server hardware purchases,"

OBJECT DATABASES

Informix mutes Universal Server hype for document management

By Craig Stedmon

UNIVERSAL SERVER may be egetten, but it isn't gone. ermix Software, turned out the marketing lights on its new object/relational database after a stunning \$140 million first-quarter loss chalked up in part to the vendor pushing Universal Server too hard, too soon. The software wasn't widely svailable, and

most users weren't ready for its object features Seven months after its gala introduction, Universal Server is expected to be kept far from the spotlight when Informix's user group meets in San Francisco next week Instead, Inform will wave the Windows NT flan for its mainstay OnLine relational databases

Several early adopters of Universal Server said they haven't seen any pullback of technical commitments by Informus since the Menlo Park, Calif., company put the lid on the database. But Informix did scale down plans for expanding Universal Serv-er's limited hardware support during the second quarter, which forced some interested

users to remain on hold. And other users who like the idea of Universal Server's support for object technology and multimedia forms of data are

still trying to find real-world applications that need the new

For example, First Chicago Mercantile Services LLC mulled using Universal Server to build an image-enabled payment processing service for banks and credit-card companies. But its customers weren't interested in



ersal Serverbecause It's wet about ready"

the image plans, and no other potential uses for the database are on the borizon, said Mari beth Anderson, manager of technology at the Chicago firm. "I still consider it to be an in-

teresting product, but even when we were looking at it, the idea we had was kind of a stretch," Anderson said. On the marketing side, Informix "did come out of the box too

long before the product was ready," said Brad Jensen, a vice president at Sabre Technology Solutions, the information technology unit of AMR Corp.'s Sabre Group subsidiary in Fort Worth, Texas. But Universal Server "is finally starting to come together," said Jensen. who is building an object-based data warehouse for AMR's

American Airlines unit. However, Informix did slow down the hardware porting process for Universal Server. The database, which was released on just two Unix platforms, was due to get support for Windows NT and four other Unix amplementations in the second quarter. But the NT version is still in beta testing, and only one of the Unix ports made it out the door.

rmix officials said. That leaves the American Medical Association (AMA) on ice because the Sequent Computer Systems, Inc. Unix boxes it uses lack the promised support for Universal Server. We're still hanging on, but it's hard to get too excited until I can get it." said lack Look a data designer at the AMA. D

SAP R/3 users gain options

Ry Randy Wester OOCUMENT management wodors are hooking up to SAP

AG's R/3 to make it easier for companies to manage impor tunt documents in a central loca-Among the vendors offering R/s-ready document manage

are FileNet Corp.
in Costa Mesa, Calif., and Documentum, Inc. in Pleasanton, Calif.

The products are seared mainly toward chemical, pharmaceutical and other process manufacturers that are required

by federal law to keep strict With those documents stored in workgroups around the world, it can be difficult for other workgroups and corporate

headquarters to access the information. DIND IT FAST But when a government regula tor comes calling, the central of

fice needs quick access to the in-Currently, headquarters has to shoot off faxes and electron mail to the various offices and call in an overnight delivery

Gerry Murray, an analyst at

International Data Corp. in Framineham, Mass., said as comnanies standardize on a single ftware system such as R/3, it makes sense to link docum management systems to it. The result is R/s becomes the enterprise link between the various distributed workgroups.

"Increasingly, the trend is to make all these systems available so someone can. in fact, answer a question on the phone," Murray said. "Ultimately, the challenge is to make all these reports work together and make these enterprise ap-

But Murray said it is only s matter of time before vendors such as SAP beein including

proaches work."

document management functionality in systems such as R/3, especially as they become more entrenched in vertical markets such as the process in Amoco Corp., a \$36-billion petroleum and chemical pro

cessing company in Chicago. couldn't wait. It tested the FileNet system on an R/s rollout at its Fiber and Fabrica division. It is rolling out R/s to so ooo werst around the

globe, with 5,200 users linked to the PileNet suite for R/3. D

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The Gartner Group's report had really nice things to say too, but we don't have permission to quote from it. So order that or any other analyst's report on Oracle8.™ Then, call us at 1-800-633-1071, ext. 11675 or check out http://www.oracle.com/st/



Shipper saves money by using the 'net as its WAN

By Bob Wallace

INTERNATIONAL Shipholding Corp. expects to save \$120,000 per year after replacing its international frame-relay network with an Internet connection between Singapore and its New Orleans beadquarters.

pany switched to using the Internet
LEADERSHIP
and the fire-

network for sending all financials walls together cost about and billing transactions.

Perviously, "our system response time was slow, we were severely restricted in the num ber of users we could put on the network, and we could only support one application at a time," recalled Stephen Fraser, director of information systems at International Shipholding 'Adding bandwidth would've addressed these situations, but doing so was cost-prohibitive."

A network upgrade would

frame-relay lines, a second server, an Oracle Corp. database. ional software from Lawson Software and two people to run the operation, Fraser said. Dodging those costs will produce the estimated savings.

The upgrade would have cost On Jan. 1, the shipping com- 1 about \$150,000, including installation. The In-\$30,000, according to

Michele Spoons-Wood, director of systems business analysts at International Shinholding. Few companies in the entire user community use the Internet in place

of a WAN, said Danlel Briere, president of TeleChoice. Inc., a global telecommunications consulting firm in Verona, N.I. "This could be the beginnine of a trend for multination

have required adding two als if global carriers don't come out with coherent international frame relay strategies and make pricing much more attractive.

> SECURITY CONCERNS Not surprisingly, International Shipping worried about Internet security and performance when transmitting sensitive

financial data. So the company bought two high-end Cisco Sys-'Our system response time was

slow ... and we could only support one application at a time."

- Stephen Fraser. International Shipholding

> tems, Inc. Procedurity systems to keep out hackers and encrypt Internet transmissions, Fraser Users in New Orleans and

spore who had Pentiumwill likely rise within a few based PCs and Windows 95 said they were pleased with the boost "Internet service providersi in response times when the

net, Spoons-Wood said.

ny benefits from today's inex-

Analysts said Interr access prices - now unprofit-

ably low for some providers -

pensive Internet access

sume a normal amount of company switched to the Interusage for their fixed-priced, unlimited usage plans," said Tom Nolle, president of CIMI Corp., In presence the comny swapped a 48K to 56K a Voorhees, N.J., consultancy. bit/sec. frame-relay link "If [they] realize that enough for two 1.544M bit/sec. TI

users are going beyond normal lines that run to an Interusage, they may reprice, and net service provider in users would lose their cushion." New Orleans and two That doesn't concern interna 512K bit/sec. lines that onal Shipholding. run to a service provider "Even if we had to pay a prein Singapore. The compa-

ium for our connection or pay for a few additional lines, the internet would still be the lowest-cost approach, and we could absorb the price in creases," Spoons-Wood said, []

Tennessee unplugs spam lawyer

The Tennessee Supreme Court has disbarred an at ney whose firm spammed thousands of Usenet nes stered aliens. Among other charges of pro in unregistered allens. Among other charges of profes-forest misconduct, Laurence Canter at Casets of legal was clied by the statir's Board of Professional appossibility for splashing unresidicide and access the stating in a way that was "hoth unsethical and agri-cum." Canter's firm, a lengther steps of critical activa-tion." Canter's firm, a lengther steps of critical re-tectionic Frentier Foundation and other groups, has files in Tenenses, Arbens and California.

FBI probes credit-card theft

isis at Starwaye Corp. are blami with in-house systems knowledge for intrading on a secure, encrypted order-processing system to gain access to the credit-card numbers of 2,597 online shoppers at the ESPNet SportsZone and National Backetooli Association World Wide Web sites. Shoppers received an anonymous electronic-mail message warning they numbers and addresses were easily available. Starways alerted the shoppers that their credit cards may have been misappropriated and enacted new security mea-sures. The Federal Bureau of Investigation and the U.S. Secret Service are investigating the incident.

NDS ported to IBM systems

ff, Stat. last week licensed Nevell Directory Se es (NDS) to run on IBM's RS/6000 Unit servers and 1990 mainframes. The move is intended to lower man.

ing users a single view of all network resources. IBM's porting of NDS to run on its systems follows moves by her Unix vendors, including Hewlett-Packard Co. witten Ltd., SCO, Inc. and Sun Microsystems, Inc.

3Com, Siemens team up

3Com Corp. in Santa Clara, Calif., and Sigmons AG in Munich, Germany, last week announced an alliance to integrate voice and data over a single LAN for corporate users. That will entail getting 3Com's data comanications products to work with Siemens' Hicom vate branch exchange lines, which are used widely tride the U.S. The technology initially will target call ters and branch offices, which are among the first to

Intuit picks Internet Explorer

Intuit, Inc. said it has ditched an acrosment to hund Netscape Communications Corp.'s Navigator browth its software in favor of Microsoft Corp.'s Inta lever. Intuit will integrate Explorer into its Quicken, QuickBooks and TurboTax software. Microsoft will carry intuit information to Explorer users using "push technology built in to Explorer. The deal is the latest step in the hot-and-cold relationship between Microsoft and Intuit. Microsoft tried to buy Intuit two years ago,

Novell makes pirates pay

all in Prove, Utsh, recently pocketed me \$1.3 million in software piracy settlements involving the compenies some row memorause, use Company some recently. The companies involved ware selling Netffure and IntranstWare supprises at higher prices to unsus-pecting cestomers. The settlements are the direct re-sults of leads from NewWill product tracking system and tips received on its antipiracy hedline.

Student finds NT security hole

A security hole in Windows NT can allow local users to get administrative privileges and access other users' files, a Russian student amounced recently on the internet. His NT attack, dubbed "GetAdmin," only applies to local users who gain access to privileges on th group. It doesn't work for outside attachers. Microsoft has issued a patch for the problem, evaluable at fuel flyer flyer microsoft.com/fuctory/ainml/bised-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/may/misof-public/fixes/misof-pub

SHORT TAKES Novell next week will begin be testing GroupWise 5.2, which supports Internet Mes-rage Access Protocol 4 and the Lightweight Directory Access Protocol. . . . German engineering firm Carl Zales Jean GmbN has become the first company to go live with SAP AG's R/3 on an IBM S/390 mainframe. The project went from testing to preduction in six months. . . . How York investment from Welsh, Caralt months... New York investment from Wessen, Cam-son, Anderson and Steven, under the Corporate name CDSI Heidding Gorp., is poying approximately Sale, million for Control Deals Systems, face, an Artisa 1988, Milan. Issued systems integrate and makes of Confessors software. ... Geological Coops, and ing equipment makes, has been helding talks to key

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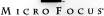
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HTML 4.0 aimed at improving Web site design

KNY VENDORS and the World Wide Web's chief standards body are lining up behind proposed ext ns to Hypertext Markup Language (HTML) designed to keep Web pages looking sharp on differ-

The World Wide Web Consortium last week unveiled the first public working draft of HTML Version 4.0. Along with Extensible Markup Language (XML), the pending next-generation complement to HTML, HTML 4.0 lets Web content de-

velopers more easily control the look and feel of documents in conventional PCbased browsers. It also allows those documents to be displayed on a wide range of

HTML 4.0 now enters a period of public comment before the consortium de-

cides whether to adopt it as a final standard - or "recome ended standard" by fall, said Dave Raggett, lead HTML architect for the consortium in Cambridge, Mass., and an engineer at Hewlett-Packard Co.

The devices in question include non-standard browsers, handheld computers. proposed browser-enabled telephones. computers without mice and computers equipped with speech devices for the blind as well as enhancements for disshied morele who can't use a kenhoord or

John Sanders, senior vice president of anagement information services at Spelling Entertainment Group in Los Angeles, said he hopes the evolving stan dards will make it easier to design Web pages that are attractive in multiple browser types without testing the pages in all the different browsers.

HTML 4.0 FEATURES

orm entries and adds labe

embed objects on a page, cluding multimedia objects an ogram code. Also standardize he sheets and scripting.

rom the earliest beginnings of the Web, there have been concerns about being able to present content with different browser versions," Sanders said, "It just becomes more problematic as extensions to browsers and different dialects prolif-

The new standards have the support of Microsoft Corp. and Netscape Com. cations Corp., both of which have begun building the standards into their

RE EMBRYOR

HTML 4.0 was designed to codify and standardize some features, such as frames and style sheets, already implemented in proprietary extensions to the Web in Microsoft's Explorer and Netscape's Navigator. It also was designed to bring some new features to the Web,

Raggett said. XML is a more embryonic standard that was designed to let developers create their own tags, which control how text is displayed on screen and interpreted by

XML is a subset of the Standard Generalized Markup Language, which was originally created in the 1960s to control displays for mainframes.

XML was designed primarily in order

proprietary applications that run on the Web, especially on intranets and extra

For example, the author of a medicalrecords application might decide to create a special tag for "allergens," said Tom Johnston, group product manager at Microsoft, which helped develop the standard (1)

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LAS VEGAS

BELF-DESCRIBED COMPUTER hackers using alianes such as Mudge, Sluggo and Dark Timgent tried to tell corporate sysms administrators last week that they mean no harm. But in-

tion. True hackers will see how much they can penetrate, but when they get to the point where they would do major damage, they back off, be

"It's not about what I do: it's more of a mind-set," said Route

teen agers oo the Internet. Panelists and they make their trols available to network administra toes, inform vendors of security boles they find and also try to educate the computing communote at large We're here talking to you,

and Dominique Brezinski, who has studied Windows NT security for three years and gave a presentation on the subject. "We try to help companies tighten up those holes that exist."

Tools are inherently neither good or eval." Route argued.

LOADED GUNST But some in the audience disserred. "Those tools are like a loaded gun; it depends who has it and where it's pointed," said one computer specialist who asked not to be identified.

Lester J. Fraim, director of security service at ANS Communi cations, an America Online. Inc. company in Reston, Va., said backers "may not be malicious but there are people who learn from them who are I think they need to be more socially respon-

Ira Winkler, a security consultant and author of Corporate Es pionage, said he considers the **Detection key to prevention**

Keeping up with known security holes is one of the best things an administrator can do to thwart hockers, said consultant for Winkler at last week's Black Hat Briefings security confinence.

Virtually all attacks can be prevented because "they exploit well-known vulnerabilities," Winkler sald. Managers can track the latest known software security breaches on the internet through newsgroups, World Wide Web sites or mailing lists (such as bug-

Two qui bugitne@netspace.org).
Winder described sudits he has performed where he posed as a company's security head and equived employee IDs and passwords. In one case, he chalmed to work for an executive and got a words. list of newly hired workers. He then called each one for a bogus "security check" and asked for password data. In another audit, he forged an application for a network smart card and thwarted the

"Hobody detected anything," he said. "I think detection is more important than prevention." With prevention, a company may not be sure what mischief has been averted, but detection allows administrators to find security holes and check what damage has

"Maybe you feel better paying consultants to tell you, "Use what you have," " he said. "It is the simple, everyday things that get ex-

some work for a come rity group at Purdue University backing tools posted on the Inin West Lafayette, Ind. "It's sudternet as the real enemy of cordenly very seer to play with." While acknowledging that Hackers may also turn their those teens wreak havoc with attention to finding holes in intelligent hubs. 'None of the nettheir tools, the backers said ourterns administrators who keep work management protocols are up with the latest bug reports very secure," he said and patches should be able to

A representative from Microsoft Corp. said he was resigned to the ongoing cat and mouse game between hackers and soft-

ware makers. "Everybody can do better They can do a better job break

ine in: we can do a better job defending," he said. D

sations that tools they develop McAfee boasts 'net virus protection

who edits the popular hacking journal Phrack. "You have a con-

stantly burning desire to learn

something new, and when you

do, voulte damned stoked about

The backers beinted at some

ed hackers (from left) Dominique Brazinski,

uppo, Jeff Moss, Simon Gardner and Chris Goggans bristi-accusations that teols they develop apown malicious at-cits by teon-agers on the internet

By Frank Hayes

PROTECTION PROM Interpetbome viruses is coming into ite assoc. McAfee Associates. Inc. this

who attended a "meet the ene-

my" session during a security

Briefings weren't convinced.

ference called the Black Hat

The backer by definition is

based on natural curiosity," said

Sluggo, who has an information

protecting World Wide Web surfers against hostile lava and ActiveX components. WebScanX, a \$39 utility slat-

ed to ship in August, will scan Internet components as they are downloaded to see if they match any of a library of "virus sinna-

NOW IT WORKS The unitry also monitors the

ponents as they run, watching for hostile behavior such as deleting files or grabbing sys-Hostile ActiveX and lava comgents aren't yet a widespread problem. But concerned netfirewalls and other security tools in efforts to keep their networks safe - often blocking lava and ActiveX entirely, users said. 'Many Internet users are not really aware about the danger on

week will announce a utility for the desktop," said David Kindree, new services development manager at British Columbia Telephone Co. in Burnaby, British Columbia. "And for network managers, it's a catch-22 - peonie want the functionality so it's and to turn off."

The desktop-based Web-ScanX offers finer-grained ex amination of Internet components than firewalls can provide according to Santa Clara. Calif. hased McAfee.

The utility also protects against hostile — or simply bugey - components installed bend the firewall. It protects mobile users as well.

"Dight now unless I'm nunning a full-blown firewall on my laptop, (firewall protection is not soing to do me a lot of good when I'm on the road," said Richard Perlotto, corporate network security manager at VLSI Technology, Inc. in San Jose,

Smaller vendors, including Finjan, Inc. in Santa Clara, Calif., and Digitivity, Inc. in Los Altos. Calif., already offer products similar to WebScanX. But the new product should bring the credibility of a major vendor to solving the problem, accord-

ing to one analyst.

buying anyway." (

It mainstreams lava and ActiveX security," said Ira Machefsky, an analyst at Giga Information Group in Santa Clara, Calif. "It's 80% protection against hostile mobile code hundied free in a product you're

year," said Artimage, who does Systems vendors share technology for KT clustering

"clueless teen-agers" who use

close holes before Internet surf-

The namelists also cautioned

systems administrators that

hackers are going to keep on

hacking. "NT is going to be a big stomping ground in the next

porate administrators.

ers find them.

De faikumar Viiavan

everywe were now a continue to exploit a Microsoft Corp. weakness by offering the high-availability Windows NT clustering technology that customers Starting this week, NCR Corp. will license its LifeKeeper

fault-resilient software for Windown NT to other hardware manufacturers and channel NCR. in Dayton, Ohio, also will launch a program to help independent software wend build fail-over and recovery ca-

pabilities for their NT applica-Support for high-availability clustering is crucial for informa tion systems departments that

want to transfer mission-critical business applications to Windows NT NCR's move follows a similar effort by Tandem Computers.

Inc. to license its ServerNet and ServerWare technologies. Both vendors are porting their venerable Unix clustering products to Windows NT and then beensing

Digital Equipment Corp. and Data General Corp. offer similar technologies but currently aren't licensing them to others The companies are trying to take advantage of Microsoff's

delay in delivering some of these capebilities via Wolfpack Originally scheduled for release earlier this year, Wolfpack is now slated for fall delivery "Microsoft still has to prove it

self in this market, whereas all these other products have already been tried and tested" in Unix environments, said Bill Murphy, an analyst at The Standish Group International, Inc.

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AS/400 vendors reach for NT, Unix

ARME LINGTIME AS/400 softre vendors aren't bleeding exssively Big Blue anymore. Instead, to better compete in

the tight enterprise resource nine market, they are benning to develop for Unix and Windows NT server.

ing the AS/400, but protecting user investments in the applica-tion software as other platforms become an option," said John Logan, an analyst at Aberdeen

For example, J. D. Edwards & Co. in Denver next month will ship the latest update to its One-World applications suite, which lets users work on Unix. Windows NT or the mainframe and integrates with the AS/400-only

This is a double-edged sword

for loyal users of the venerable IBM midrange platform. On one hand, it may seem to

users that their main applica-tion vendors — the backbone of the AS/400's integrated technology selling point - are rush ing from the AS/400. But at the me time, vendors can use the new revenue to better support existing AS/400 shops and integrate the AS/400 with other

"I intend to get all our data into relational tables no matter what - be it on Oracle [Unix] or the AS/400," said Douglas Cher, chief information officer at Broderbund Software, Inc., a I. D. Edwards World site in Novato. Calif. "Form though we plan to move to OneWorld in a

to the already messy process of

tting and protecting Internet

The U.S. Department of Just

tice opened an antitrust investi

gation into the business of regis-

Officials at Network Solu

ng Internet addresses

request for document

more chentisenes environ ment, it is probable that we will still stay on the AS/400 for a lone to

I. D. Edwards and U.K.-based IBA International Ltd. are also moving ahead to develop their own object technology to help transport data between platforms, even as they take part in IBM's San Francisco project. which focuses on cross-platform object technology, too.

But the companies, each with about 4,000 AS/400 client sites, said their primary focul will remain on the AS/ann. "It's a smart decision on their behalf, so they are not creating a

platform-dependent product," said Mike Terlizzi, president of Ballet Makers, Inc. The Totawa, N.L. dance foot wear and clothing company

runs JBA's manufacturing software on the AS/400.



But some observers said the focus on other platforms could change dramatically in a few years as Windows NT takes the on's share of development dollars and revenue (see chart)

"IBM needs to expand the number of AS/400 third-party developers to attract more new users," said Bruce Bond, a research director at Gartner Group, Inc. in Stamford, Conn. Two new players that have

taken the bait for the AS/400 include SAP AG and PeopleSoft. Inc. [CW. July 7]. But installation has been hampered by scalability prob-

lems with SAP's R/3 and a long testing cycle by PeopleSoft. [3] **Bay switch**

could cut net costs

By Bob Wallace

BAY NETWORKS, INC. USPTE now can save big when connecting switched Ethernet LANs to Asynchronous Transfer Mode (ATM) backbone networks. Bay's CooN switch can funnel

16 lines of LAN traffic through two on-ramps and onto a high-speed ATM highway. Users who have ATM backbones and are deploying switched Ethernet need those features.

The C5nN costs \$9,995 Previously, Bay didn't have a low-end Ethernet workgrov switch that could do that afford ably. Users had to use the larger and more expensive C100, which costs about \$16,000.

We use C100s to do this p but we're seriously looking at the new switch because it can save us money," said lor Da-Costs director of network mangement at Human Resources opment Canada in Ottawa. We have a building that we're rewiring, and I can rec.com ing the CsoNs there.

The CanNa will let users ex tend ATM com data center to the workgroup from which huge data streams now emanate. Users also can off-load the conversion of Ethernet frames to ATM cells from data center switches.

"Packing these capabilities in-to an affordable box will help drive deployment of ATM," said ip MacAskill, a senior anal at Gartner Group, Inc. in Stam ford, Conn. D

Debate over domain-name registration heats up

DOJ opens Network Solutions investigation

CALL IT www.upeour.arg. The debate over how to register Internet addresses grew noisier and more complicated last

Two federal apencies entered the fray, and an international agreement on future Internet sain renistration cause under vicornus attack

For corporate webens

Severament contract?

ins or an international accord for

sys the government or to procure or to de-inink it makes somes for the government to de-e use register cars and guns," said Jim Storne, jor Marintale, a consultancy in Santa Barbara, Call' / we should be a public dealbase served by the — and why should anybody reap profit for that

n names is an absolute nightmare," he exid. name under .firm, .com and all the others, flow orr trademark."

the public to post comments at www.ntia.doc.gov - until Aug 18 - on ways to improve the internet domain registration process. The National Science Foundation first authorized Network Solutions as the domain registrar in 1903, but that agree ment ends in March and won't

ons, Inc. in Herndon, Va., be renewed. which has a near-monopoly on WHO'S THE BOSS?

domain registrations, said it had received a Justice Department The question now is who will subsequently powern the Inter-Meanwhile, the U.S. Depart net addresses that corporations depend on for electronic mail and World Wide Web com-

> The now-defunct Internati al Ad Hoc Committee (IAHC) presented an accord in Geneva in April that calls for multiple registrars around the world and seven new top-level domains.

including .firm and .store. But last week, a new group called the Open Internet Coneress (OIC) met in Washington to plot against what it called the IAHC "takeover" of the Inter-

net. Critics said the IAHC accord was created by a selfappointed clique that didn't use an open process. Others said seven domain names with un limited registrars will be confusine and require companies to resister multiple names to de-

ment of Commerce has asked The IAHC plan is really an ateurish market ploy" people who want to profit from selling registrations, said Andy Serpovitz, president of the Association for Interactive Media, a nonprofit group in Washington that represents 500 new-medi companies. The association convened last week's OIC meeting and will belp hold an Inter-

net "constitutional conv in the fall at Comdex/Fall '07 or Internet World he said. One Internet veteran said the IAHC process is more open than critics say. Vinton Cerf, semor vice president of Internet cations Corp. in Washington, said, "Anyone is free to sign the [IAHC accord] and participate in

discussions of the Policy Oversight Committee. Cerf said the IAHC plan "needs work" but added that it scems to provide a more open registration process than other

Semovitz said the OIC isn't aligned with Network Solutions. although the registrar's parent company, Science Applications International Corp., is a member of Sernovitz's association. We don't think of [Network

Solutions) as overwhelmingly evil." be said (1



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Apple's parade of CEOs





CEO bumped from the com-

GEE Apple ships first

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nd, its

fours 95. New

Enough is enough CONTINUED FROM COVER ! folks I answer to and said, 'Let's

over the past, year, some had almake a renewed investment in the Mac," said Norman Eide, vice president of information ready started migrating to Windown. That is more bad news for Apple, which most recently ansystems at HDR Insurance Sernounced plans to focus on its vices LLP in Sacramento, Calif. The company is moving from the Macintosh to a Windows NT current user base "As a manager, I would have no credibility if I went into the platform. "I think they lost st. In

the business world, their window is shut," Eide said "Slowly but surely, we're moving toward Windows," said Mike Anderson, director of intion systems at Sunmy vale. Calif-based TRW. Inc. TRW's defense contract division uses 1,200 Macintoshes, and

thousands of Macintoshes are used throughout the company. "The group we're in hasn't pushed or endorsed the [Windows) standard vet, but day-today pressure pushes us more toward Windows," Anderson said. People are losing faith in

[Apple]," said another information technology manager and Macintosh stalwart at a large aerospace company. He said his division will phase out more than so ooo Macintoshes within three year

Research from last year shows an increasing number of larger 15 departments moving away from Apple, said Eric Lew is, an analyst at International Data Corp. in Framingham, Mass. At larger companies, Mac is the minority platform

and it tends to lose out," he said Still. lovce Croker, assistant systems editor at the Los Anodes Times, said she doubts the Macintoth is going away tomorrow She said her IS denartment "is swinging everyone over to Microsoft," but the users who put out the newspaper would fight to keep their 6so Macintoshes because of their reliability and

graphic capabilities. But it is undeniably hard for even Macintosh diehards to avoid distillusion, considering that Amelio, 54. is the third

pany in four years Apple's board of directors forced him to reuen last Wednesday, citing their dissausfaction with the company's per formance. Also resigning was Ellen Handock, Apple's executive vice president of technology. She had worked for Amelio at National Semiconductor Corp. Fred Anderson, chief finan

Ellison could prove to be Apple's servior. In March, Ellison had

cial officer at the Cupertino. Calif-based company, will take over darly operations until a new CEO is hered. That should take three to six months

JOBS RETURNS Meanwhile, Apple co-founder Steve lobs' role will be expanded to "strategic adviser." Jobs, who himself was Apple's CEO, rejoined the company after Apple bought his company, Next Software, Inc., for \$425 million last December

Current plans call for him to oversee product strategy, marketing and sales. Some pub lished reports said Jobs had lobbied for Amelio's departure. lobs and Amelio weren't available for comment.

When Amelio was hired he vowed to return Apple to profitability. But during his tenure, the company's share in the worldwide PC market to dropped to 3%, from 6% early last year. A string of quarterly losses added up to more than \$1.6 billion, which triggered massive lavoffs and record-low the board may have been the excash bonuses last year. pected announcement this week "They need a guy who has a of a third-quarter loss of up to \$100 million (see chart below). While Apple struggles to regroup, users said they are weeried about the company's fu-

stock prices. The last straw for

lot better understanding of the consumer electronics market," said Ken Lim, a former Apple marketing manager and editor of "Cyber Media 2001," a newsture. Some industry observers letter in Cupertino. "Amelio was said Oracle Corp. CEO Larry a semiconductor guy. A new CEO must "get on a

ceived \$1 million in salary and

apbox and proclaim som thing loud, clear and coherent about who Apple is and make the development community believe it's not wasting its time," raid Steve Dube, an analyst at Wasserstein Perella Group. Dube said Apple has until next lune to become profitable before its cause is lost.

Sun Microsystems, Inc. CEO Scott McNealy said "the best chance Apple has is to become the easiest and friendliest lava platform provider out there. Mike Bailey, a systems analyst

at Lockheed Martin Missiles & Space in Sunnyvale, Calif., said Apple doesn't have a future unless it completely changes its course. "They're dependent upon hardware sales - not soft ware," he said. Future cloning will only hurt the company more, he said. "If they're going to continue to sell boxes, they're going to go belly-up."

How had is it?

Closing at 13-5/16 Thursday. the company's stock is at a 10-year low, analysts said.

floated the idea of forming a

There are few obvious candi-

dates to succeed Amelio, observ-

ers said. Though some ques-

group of investors to buy Apple

to produce network computers

Brain drain Apple has laid off 4,500 peeple since Jenuary 1996 and gone through four CEOs in 16 years. A steady ex

PC market shar The number of Apple cor ers shipped and sold di nd quarter of 15 Apple's PC merket share has fallen from 6% last year to just 3% this year.

a more 5% of new o

- Complied by Mari Keels

Expelie of top

tioned why anyone would want the job, analysts noted the potential befty salary. Amelio re-Stock value

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Borland users await turnaround strategy

By Sharon Gaudin

USERS SAY it is time for Borland Interna tional, Inc. to show them exactly how the financially troubled company plans to

stay affoot Borland, a high-end application devel opment tool maker, lately has garnered more publicity for its financial slips and spills than for its cutting-edge products. Users said they will look for signs that the Scotts Valley, Calif., company is turning things around at this week's user conference in Nashville.

	rand's Americ	ial troubles
	Revenue	Profit/loss
200	\$464M	-\$49.2W
100	\$393.5M	-\$69.994
996	\$254.1M	-\$12.2M
	\$215.2M	-\$14.3M

rmed about Borland's ver existence. Most definitely," said John Brush, a senior analyst at the California Department of Mental Health in Atascadero, Calif. "The real hope among the Borland patriots is that it'll be bought

out. I think that would be best." A Borland spokesman said CEO and Chairman Delbert Yocam will outline the company's strategy at the user conference but refused to say what that strategy might include.

STAGE SET FOR COMEBACK

land." he said.

Evan Quinn, an analyst at Interna Data Corp. in Framingham, Mass., said Borland is positioning itself for one more comeback push. "Yocam has set it up so they can take one good shot at a new Bor-

Ouinn noted that the company has a good chance. "They've opened themselves up from just retail to corporate markets. They got \$25 million in equity financing. [They] cut down their workforce by 10%. With a Java tool and tools for the AS/400 platform, [Borland is] no lonerr only Windows-platform aligned. You can begin to see all the pieces of the puzzle," he said

Borland, the maker of the popular Delphi development tool, began having trou-bles several years ago that eventually led to the ouster of founder Philippe Kahn. Its revenue has been cut in half - from \$464 million in 1993 to \$215 million last year. Analysts said there are several rea-sons behind the company's most recent failures. Several noted that Delphi and Borland's C++Builder are very similar to each other, which doesn't give customers much of a choice.

Users and analysts also said Borland is running behind the pack with Java tools. The company is working on J++Builder, a Java tool. Other developers, such as Sy-

mantec Corp., Sun Microsystems, Inc. and Microsoft Corp., already have prod-ucts on the market. Borland's product is

Microsoft's extremely popular Visual

and sucrosort corps, agreatly rarey groot basic.

Som DiGrazia, a product manager for Nevell, [I of DiGrazia, a product manager for electronics and software at the Chemelex and act and differentiating its Delphi product from chem Corps, said he has his doubts about pass." I

nd's survival but not about Del

"Actually, I'm not worried all that uch," said DiGrazia, who has been much, take Discreta, who has even using Bordand products since 1935, "The Delphi program will, be picked up by somebody if Borland fails. Synamitec or Novell, [Inc.] or someone will pick it up and act as a parent, Today, it's more powerful than anything I've used in the

It was supposed to be the launch of a

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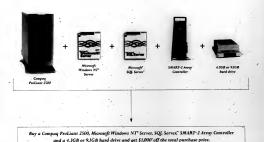
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States expect big savings from data center consolidations

ARMED WITH CONSULTANT Studies nise jackpot-size savings, California and Pennsylvania plan to consolidate their respective data centers. But they will follow separate paths:

tion: California will not. The California study estimated the state will save \$50 million to \$85 million over the next decade by consolidating its

sa data centers Pennsylvania said it can save up to

\$127 million over five years by merging But the California study, prepared by

Deloitte & Touche Consulting Group for the state Department of Information Technology, found no savings benefit from outsourcing the data center opera-

"Government can no longer have

these isolated systems," said John Thomas Flynn, California's chief information officer, who spearheaded the project The savings in California's consolida-tion plan will come from reduced costs

for hardware and software maintenance and lower personnel costs. The consolidation could affect about one-third of the a,000 state data center employees, but not necessarily through layoffs.

California needs to hold on to its infor-

mation technology talent and fill vacant jobs. "We're losing people like mad to Silicon Valley," said Rich Halberg, assistant director of the state Department of Information Technology

Workers may be reassigned to other jobs, such as the year 2000 problem,

"Government can no lonner have these isolated systems."

- John Thomas Flynn, California's CIO

sourcers to worry about filling jobs. "Do the most up-to-date talent come to the state and stay here?... With the outsourcers, we're always going to make sure," said Tom Paese, Pennsylvania Secretary of Administration in Harrisburg, which

oversees state IT oper Affected employees said they are nervous. "We've been waiting on pins and needles just to find out what is soine to be in the report," said Vic Newquist, the data center director with the State Treasurer's office in Sacramento, Calif. But be said employees aren't worried about a

sudden layoff. Newcoast said it will take three to four years to implement the study's recommended changes. In the meantime, his department, which supports ago users, has been running ongoing training pro-grams to prepare its staff for changes in their job duties Other states that have consolidate

data centers have saved money, according to John Kost. As CIO in Michigan. Kost launched a project in 1995 that consolidated 15 data centers into one. It was a huge savines, and that was

just on the cost of operations buying the computers, keeping the software main tained and the licenses and staffitu of it."

The state exceeded its estimated cost savings of \$15 million over five years, be said. But the real economies came from a boost in the productivity of staffers who were freed up to do application develop-

"I have yet to find a circumstance where consolidation did not make financial sense," said Kost, in analyst at Feder-al Sources, Inc. in McLann, Va. D

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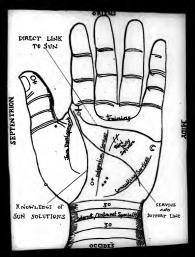
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No Excuses."

Users hold off on 56K modem investments

▶ High costs, lower-than-expected speeds and lack of standards have been cited

By Kim Girard and Mundy Blodgett ALAN JARASHOW, project manager for

in Parsippany, N.J., did his homework on s6K bit/sec. moderns He discovered it would cost \$100.000 remote communications at Nabisco, Inc. to invest in modern pools necessary to

upgrade to 56K bit/sec And up to 20% of his 4,000 remote users are in rural areas where they would have a "one-in-a-bilbon chance" of really petting data at s6K

bit/sec., despute the investment. Faced with those cost and performance problems. Jarasbow and other corporate network managers shy away from adopting c6K bit/sec moderns, analysts said But some Internet service providers bave forged ahead anyway. America On-

line. Inc. in Vienna, Va., said it will support 96K bit/sec. moderns in 120 cities by And Netcom On-Line Communication

Services. Inc. in San Jose, Calif., supports the speed in 40 cities.

TESTING 1, 2, 3

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- 3. Dial (888) 877-9248
- 4. Type in Line Test
- S. Walt for report

But many other Internet service providers are waiting for a standard to be hammered out before they invest in new switches, which can cost \$100,000 to

\$300,000 ариссе. "56K bit is a marketing bullet point rather than a reality for many users," said Dan Taylor, a sensor analyst at Aberdeen Group, Inc. in Boston.

NOT UP TO SPEED

One big reason is that 46K bit/sec. mo derns don't deliver their promised speeds because of the spotty quality of local telephone lines, according to Dan Merriman, a vice president at Giga Information Group, a Cambridge, Mass-based consultancy.

He said there are very few mobile users or telecommuters who use 46K bit/sec. moderns. Those who do report speeds "in the mid-40s," Mernman said Corporate managers are asking, "Do I want to make this investment and find it

doesn't really work because of the quality of the lines?" Merriman said. That's a worry shared by Sheryl Olguin, lead software engineer at Harris Corp. in Palm Bay, Fla.

We've been following it, but right now we just don't think the phone lines are good enough to get true 56K technology," Olguin said. "I think eventually it will be cost-effective technology, but we are waiting it out."





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High tech fuels NASA mission on Earth, Mars

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Ry Mitch Warner MOSS THAN 4 million peop

each day last week left planet Earth to visit Mars. They took a shortcut, of course, via one of the most popular sites in the history of the

World Wide Web. The NASArun site displays pictures and information from the unmanned

The Web site, at myfuww.pl. nosa.gov, saw 220 million hits, or 22 million individual visits, between Pathfinder's landing on Mars at 10 a.m. July 4 and last Tuesday afternoon. rmously high traffic left NASA straining to meet the Web demand, said Dave Dubov. Mars Pathfinder webmaster at NASA's let Propulsion Laboratory in Pasadena, Calif. NASA handled the demand

in part by using a big-bandwidth has a 45M bit/sec. To connec tion to the Internet, an order of magnitude larger than Internet connections that serve entire orate campuses, NASA is also handling the strain by using high-powered servers loaned by Silicon Graphics. Inc.

The servers are backed by more than 20 mirror sites around the world that carry copies of the site Duhov said "Our goal was to provide a

virtual presence on Mars to let the public join us here and see the beautiful images and be able to see what the ensineers were seeing," Dubov said. The Pathfinder site offers an

thive of Mars images, live In-

est to encounter brief but huge popularity in conjunction with adline-making news. When the Heaven's Gate cult

worked as internet consulture

committed mass suicide earlier this year, 'net-heads worldwide flooded servers with requests to log in to the cult's site; the group IRM last year posted results from the Summer Olympics on the Web, but systems errors pre-

IBM RS/6000 nuides snacecraft By Ton Ouellette

are army has bended on the Red Planet

In the latest example highlighting the box's high-end canabilities an altered sersion of IBM'a RS/6000 processor is running the show aboard Pathfinder, NASA's lander currently

exploring Mars. The inclusion of the RS/6000 in a deep space project is evidence that NASA is seri about cutting costs and speeding up projects to explore other

Deep space missions typically take to to 12 years to arra and billions of dollars to out together. But the Pathfinder project went from concept to launch in three years - at a relatively paltry cost of \$170 million.

The only customiza quired was altering the RS/ 6000 to protect the specially designed RAD 6000 from mas sive space radiation. Lockheed Martin Federal Systems in Ma nassas. Va., developed the RAD

"A major part of cutting down the project time line was the use of commercial technology With

separated from the spacecraft. The RAD 6000 is the size and thickness of a pad of paper but can run at 22 MIPS. It must withstand radiation and temperature variations from minus 55 C to 70 C, along with the side effects generated by the vacuum

Keith said. O

22 MIPS AND RUGGES

We have to prepare for an analesment that is incredinasty. In space, you can't just blow air across a processor when it gets bot like in a PC,"

the choice of the RAD 6000, we

were able to work with the oper-

ating systems and software im-

mediately," said Lloyd Keith, the

engineer in charge of procuring

Pathfinder's flight computer and operating system at NASA's Jet Propulsion Laboratory in

In the past, the space agency

designed a spacecraft's comput

er from the ground up, includ-

ing the hardware, operating system and mussion applications

With a commercial processor

the lab was able to immediately

beein programming using

Wind River System's, Inc.'s

VXWorks real-time operating

The RAD 6000 has been in

Det. 4. when the launch device

strol of Pathfinder sissor

Pasadena, Calif



The Mars rover Solourner, after leaving Pathfi reaches the rock known as Barnacie Sill (left)

et video feed from NASA's cable television station and a virtual reality mock-up of the Mars landing site written in Virtual eality Modeling Language. The Pathfinder site is the latvented journalists from logging in to the site to pick up results.

MASA uses Jeva applet to convey Pathfinder photos

IS weighs separate network for diagnosis, repair

By Patrick Dryden

CLIENT/SERVES networks have become so vital to business that some information systems managers want a separate network just for monitoring performance and fixing problems.

IS managers are under the gun to maintain service levels for users. but constantly gatherine statistics can slow response times across the produc-

tion network. And managem crave a back door to reach critical devices if the main link fails. Drawbacks to puch an ap neooch include added cost and complexity, but some IS managers and consultants recor

working with a safety net "If all my management traffic runs over the main network and it goes down, then I can't diagse the failure," said Bryan Rates, a senior analyst at Sup-

etNet Consulting, Inc. 10 Calgary, Alberta. The 'outside network' Bates built for the campus of a Cana-

dian energy company connects servers and major internetworking devices. It lets operators reach out and touch a failed component from another side," he said. The network

also off-loaus address data-gathering activities ity of several monitoring tools. which lessens the impact on business traffic, he said. Ernst & Young LLP is starting to recommend separate man-

ent networks so its clients can free handwidth on the primary network and retain contact with critical devices, said John Parkinson, the consultancy's director of emerging technologies research. "If you want a lot of instrumentation, and you plan to actively manage perfornce, then that's the way to

Also, a secondary link to farflung routers, for example, often will come in handy. "If you can't get to that router across the net work, you must call someone to go punch its buttons," Parkinson said. 'That's a real problem with the lack of support in remote sites, especially for organizations soanning the globe.

At Stanford University, network planners are moving to external collection of mandata to remove that traffic from

the backbone, according to Jay Kohn, networking production manager at the campus in Stanford. Calif. "We want the free dom to do more experimentation, testing and other activities without affecting the primary

infrastructure," she said Managers of telephone and wide area networks typically duplicate connections for emer gency purposes. But the load

doesn't worry too many IS managers right now. They said management traffic can be minimized by judiciously determinsured and how often.

"If you configure your tools properly, traffic won't be a problem," said Richard Weiss, architect of enterprise management Co. in San Francisco. Building a second network for man ment purposes would be too coetly be mid

And it would add another layer of complexity, said David Brown, director of network services at The New York Times. Brown said he can reduce management traffic by decrease ing the polling interval for monitoring tools and adopting

smarter probes that can sum manze statistics on their own Fly tilly and Co. is consider.



work to menitor coned points carrying lots of switched traffic, said Torn Reinat Lilly in Indianapolis. C



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Computer Industry

3Com to cut 800 joks 16, or 4% of its work during the next year as e res of its merger with U.S. Rob ics. sCom said it will cut overapping positions, primarily in the corporate arena. The S8.5 illion marger was completed

er profits at Yak er profits, helped by th in truffic on its World Web site. The Santa

itel denies charnes rault. Filing in federal rt in Worcester, Mass.,

SAP predicts profits

SAP AC last week said it en ts and sales when finan e company said strong eter performance.

Novadigm, Inc. in Ma H.J. Novadigm's Ent

Briefs AEA sues former CFO over missing money

► Group goes public after repayment plan fails

By Matt Hambles THE AMERICAN Electronics Association (AEA) in Santa Clarz, Calif., had hoped to take the quiet route to get its fired chief financial officer to pay back \$807,000 the association

believes he embezzied over 12 vears. But when William Phillips Ir. failed to meet an agreed-upon June 50 deadline to repay the

money, the AEA went public and filed a civil sun that seeks full restitution. Last week's publicity from the lawsust, filed July 3 in Santa Clara County Superior Court. prompted an official at the county district attorney's office to consider criminal charges.

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consultants

By Randy Western

application wazs

"We're getting preliminary information about the case, but

rt's still very early," said Santa Chra County Deputy District Attorney Mark Hames, head of the evonomic crimes group Phillips. 54, who lives in Milpitas. Calif., couldn't be reached for comment.

In an arrangement with the AEA. Phillips agreed to pay the \$807,000, but he admitted no wrongdoing, His attorney, Stacy Shelton, said she had read the rane page lawsuit against Phillips, but she wouldn't comment or discuss Phillips' whereabouts. Phillips has up to 60 days to present an official response to the civil case The AEA filed the lawsust after Phillips paid \$250,000 to

the group but messed the deadline for the balance, AFA Chairman George Sollman said.

Phillips was fired in March from his \$144.000-per-year job after the AEA said it discovered he was making payments to a durarry information systems consulting organization that Phillips created called The Solutions Group All the

checks, written about once per month for 12 years, were below the thresholds of \$7.500 - and, later, \$5,000 required for a second authorizing signature. AEA officials said.

Sollman, a board member for six years. said there has been some board hand-wringing over the intr-

dent. "I definitely feel I was buffaloed by Bill," Sollman said of Phillips. "He figured out our system and used it on us. Sollman and AEA President William Archev, who arrived in 1995, said they instituted strong measures to prevent future embezzlement, including lowering

\$450,000 3 months

\$950,000 6 months

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moduze companies, there is no

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right or you go out of business."

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wood Shores, Calif. based com-

Heavyweight Otacle is the lat-

\$650,000

\$850,000

SLISM 7 months

\$1.35M 8 months the amount of a check that can be written by one person from \$2 mo to \$5 ago in 1005 and in Murch to Street

Archey said the affair has detracted from last year's accomplishments by the AEA in pushing for tax legislation favorable to computer companies. The AEA's prime mission is to lobby

"I definitely feel I was buffaloed by Bill. He figured out our system and used it on us."

- George Sollman, American **Electronics Association**

honest people [

state and federal officials on behalf of its 1.000 members. including the largest software and hardware makers. The main lessons for other reganizations to avoid insider theft. Sollman and Archev said are to institute strict financial controls, especially on 15 con sultants, and find wars to have

Oracle charges into the middle-market battlefield

ORACLE FASTFORWARD

Ew 20 concurrent users Financials Enterprise Resource Plenning* For 40 concurrent users Enterprise Resource Planning

For 60 concurrent users Enterprise Resource Plenning* "Financial and manufacturing modules

With these programs the vendors do most of the work and they can do it in short time penods - from three months to dors concentrated on Fortune eight months, depending on the size of the organization (see companies were handed off to third-party sales channels and

BISK REMOVED

The key difference between More importantly, much of the tune 500 companies is the Imidrisk is removed for the user company because customizadie per firms! don't have the finformation technology! staff to tion and massive re-engineering do the installations themselves aren't part of the equation. "The margin of error is very

conv last week announced Fast Forward, a program that tarsets companies in the \$40 million to \$500 million range. It includes a core set of Oracle annications preconfigured for have becomes functions a nerdefined unplementation plan. slim for these ismaller compaan Oracle Universal Database

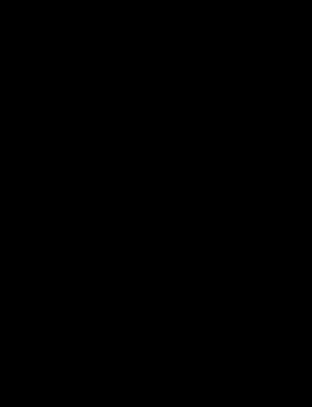
FastForward is Oracle's answer to chief rival SAP's yearold ASAP program, which touts quick-and-easy implementation

of SAP's R/s system FastForward was designed for companies that want a quick migration to client/server with key business functions already configured to their business practices and that can postpone adding any other functionality or customizing the software until after the instal installation.

Oracle officials said. It also is limited to commanies with no more than 100 users on a system located in a single organizational unit that uses one currency and one language in other words, roultmational companies in a highly distributed environment need not apply Core applications in the program include procurement,

invoice payment and asset accounting on the financial side. and cost accounting, forecasting and order fulfillment for the manufacturing module Oracle is testang the progra

and plans a general launch by year's end O



Computer Industry

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honest people.□

Oracle charges into the middle-market battlefield

By Randy Weston

MIDDLE-MARKET companies are shaping up as the new battleground in the packaged application wars.

In the rush to sign up cus tomers, vendors are busily rolling out programs to attract the previously ignored market segment. With the programs, vendors promise quick, inexpensive and relatively painless migra-

tions to their products. Judith Hurwitz, president of Hurwitz Group, Inc. in Newton, Mass., said those types of proerams are essential for the moddle market which until recently had all but been ignored by SAP AG and Oracle Corp. as the ven dors concentrated on Fortune soo installations. Many smaller

companies were handed off to third-party sales channels and The key difference between [midsize] companies and Fortune 500 companies is the [mid-

dle-tier firms! don't have the information technology staff to do the installations themselves, and they don't have the luxury of time." Hurwitz said.

ORACLE FASTFORWARD

With these programs, the vendors do most of the work and they can do it in short time periods — from three months to eight months, depending on the size of the organization (see

DISK REMOVED More importantly, snuch of the risk is removed for the user company because customization and massive re-engineering aren't part of the equation. The margin of error is very slim for these (smaller) compa-

est to take the plunge. The Red-wood Shores, Calif.-based company last week announced FastForward, a program that tarorts companies in the \$50 million to Scoo million range. It includes a core set of Oracle applications preconfigured for basic business functions, a predefined implementation plan,

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of SAP's R/3 system. FastForward was designed for companies that want a quick migration to client/server with key business functions alreads configured to their business practices and that can postpone dding any other functionality or customizing the software until after the initial installation.

Oracle officials said. It also is limited to comp with no more than 100 users on a system located in a single organizational unit that uses one currency and one language In other words, multinational companies in a highly distribut ed environment need not apply Core applications in the proeram include procuremen

invoice payment and asse accounting on the financial side and cost accounting, forecast and order fulfillment for the mufacturing module. Oracle is testing the pro and plans a general launch by

year's end. []

The answer, you might have guessed, is "d." Company is pioneering Fast Ethernet technology and making mass migration from Ethernet to Fast Ethernet simply offortless with a number of industry firsts. With the first dual speed 10/100 lash, you can foreget about all those coutly trips to the wiring closest. And the first segmentable, stackable 100 Base. This hosteles comfortably into your current network and delivers drops in Fast Ethernet access to your server. Now you can overcome cable distance. Limitations with the only standard based solution, Smart Uplink. Ultimately, with Company Netfiligent, you'll benefit from the broadest range of products that are reliable, affordable and offer the greatest price-performance. To learn more, visit us at www.compaq.com or call 1-800-564-5255.



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But hurry, because in business these days,

it's survival of the fastest.

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Has It Changed Your Life Yet?

Mainframe dela vu Our industry needs a 12-step program to get over its

fear of old - no, make that "legacy" - technology. Witness the so-called return of the mainframe If that works't on bullcomes, it would be force. Where

did it go? Admittedly, for a while there it was politically incorrect to admit to owning a mainframe, much loss running your — gaspl — business-critical application on one. But at many of the world's major corporat that has always been true.

Corporate America never replaced its mainfram with networks of PCs. The reason? You can't replace an ox with 10,000 chickens, as Gartner Group analyst Jim Cassell observed some years ago. Even today, there is little that matches a main-



frame's throughput and ower when it co to handling massive ests of data while maintaining centralized control over corporate

Of course, client/server, Java, the internet and other newer technologies sill have their place in the grand scheme of things. But mainframe applications are evolving into newer, more interactive and dynamic systems. That is very different from the thinking five years ago, which was to replace

big iron completely with anappy client/server syst Consider these words from top MCI technologist John Gerdelman, president of NetworkMCI Services. "This whole place runs" on Cobol-based mainframe systems, he says. "I'm trying to convince all my peop ... to evolve those established systems, because thes

we can get to market faster. Scalability is everything." Perhaps it's the mark of our throwaway society to think that anything now will simply annihilate the old. Vet take a look at Cobol programmers who were called sury and worse only a few years ago. They are having the last laugh now as corporations acramble to pay them big bucks to help resolve the year 2000 crisis. Who better to empathize with the next executive who stands up and says, "I'm from a Fortune 100 com-

party, and I have a mainframe."



net: inhonne ambresia@cu.com



nk E-mail is annoying, but should it be illegal?

- Send It all box

scare cosmicrery with name edstor Patricia Keefe's tirade on spam ["Return to sender," CW.

May 26]. I don't see why I have to wade through garbage to find out how to remove my name from someone's mailing list, which never works anyway. I forward it back to them and post that E-mail ad-Development tools are no substitutes for good planning

W How In your May 26 issue, a Fortune too manager is quoted as saying "Today's apps can be developed so rapidly that you can have one running before the project plan to do it the old way could be written" ["Technically challenged?"]. I'm glad you didn't publish which Fostune 500 company, be cause that kind of artitude should

Do Microsoft product reviews correlate with ad dollars?

trend developing in Computer- judges are. In the June 9 issue, I world's product reviews. You consistently grade Microsoft as one of the I wonder how best software nublishimpartial the ers regardless of whethor the renews are of iudges are

browsers, spreadsheet programs, E-mail software or word processors. I'm not saying Microsoft doesn't make quality products.

dress on a page that can be harvested by those MailBot collectors. Hopefully, spammers spamming one another will cause their systems to crash and burn. Roleh Hightowe

Chemin, S.C. FIND IT interesting that news editor Patricia Keefe urges readers to support an initiative to add spamming to the fax law, yet when it comes to passing laws to control hard-core pornography on

the 'net it's a free-speech issue. As she put it in her editorial. Cut the Douglas Pusateri

cause its stock to drop precipitous h. Anyone who thinks that today's development tools - which, generally speaking, do allow a program to be up and running more quickly — are substitutes for planning and good systems design does not belong in management in any size company

Conrad Stegner Dickmond Mo

HAVE NOTICEO a disturbing but I wonder how impartial the

noticed Microsoft ran seven two-page ads and one three-page ad. Is it just one or is your opinion of product quality in direct correlation with ad dollars spent?

Ros Hull Whittier, Colif. rhinds though not

Successful online companies

AGREE WITH Editor Paul Gil-["Online reality"] that not all Inter net enterprises will succeed. But I submit that certain types of businesses could exist only on the Internet - and those butinesses seem to be thriving

Two such companies that spring to mind are at www.bibliofind.com

and www.onsole.com.

Bibliofind is a repository for used books. It allows hundreds, maybe thousands, of booksellers worldwide to nool their inventories into a single database. Customers can select the best deal among the many offerings that turn up. Onsale is an online auction that

lets customers bid on reconditioned and closed-out computer and electronics merchandise. The current winning bids for any par ticular auction lot are visible for all to see and bid against. Those on the list when the auction closes get the merchandise. I am spending more of my money online. For certain types of purchases, there is simply no alternative.

Don Staricke Los Angeles

uterworld welcomes ents from its reader Letters shouldn't exceed 200 words and should be ad-dressed to Maryfran John **Executive Editor, Computer** world, PO Box 9171, 500 Old Connecticut Path, Framingham Mass. 01701. Fax numb (508) 875-8931; Internet: letters@ox.com. Please include

Congress may make staffing decisions easier

Steven Lipson and Harvey Shulman

he shortage of highly skilled computer professionals can create project delays, high labor costs and general frustration for IS managers.

Now Congress is considering legislation that could make staffing decisions

easier by clarifying the definition of an "independent contractor" and making the workforce more flexible. Are you an IS

Are you an IS manager on a tight budget and short deadline, whose in-bouse employees are on other assignments or lack the expertise? Have you called a staffing firm and received resumes of consultants who have the right

skill sets, are immedistely smillable and will work within the billing rate? Did your excitement wane when you learned they will work only as independent contractors paid by the staffing firm and not as employees?

it's easier to staff hair salons with contractors than to staff high-tech projects.

Many IS managers must receive "special permission" from higherups in their legal, procurement and human resources departments before they can accept independent contractors. Lawyers and CPAs for the staffing films and/or independent contractors also may get involved. In those situations, many 15 managers, staffing films or contractors jut walk

away. Everyone loses.

The root of the independent contractor
problem is an unpredictable, 20-factor
"common law" employment test that
originated in medieval England but is As a
used today by the IRS to distinguish in-

dependent contractors from employees. Because the test isn't conclusive, even if contractors pay their taxes in full, the IRS could reclassify them as employees of the firm that pays them and collect the

same taxes from that firm. Many staffing firms want to avoid a confrontation with the IRS and often reject independent contractors even if they are the best technical

The problem is particularly rerious for high-tech professionals. Incredibly — acting under a nowdisproyen assumption that hightech workers have higher tax noncompliance rates than workers in other

tech worzers have nagner uz neacompliance rates than workers in other industries — Congress added a section to the 1986 The Reform Act that makes it especially tough, for computer professionals to work as independent contractors through stuffing firms.

To prevent IRS reclassifications, other workers have a back-up position: If they can show widens or a court opinion demonstrating it's the practice of their industry to hise independent constructes, they can work anywhere without huring to pass a test. But Section 1706 removed high-tech workers from that arise haven. As a result, it's easier to staff construction projects or hair salous with independent control to projects or hair salous with independent.

dent contractors than it is to staff highn tech projects.

The House has passed a tax/budget bill that offers a more flexible definition of independent contractor. Innown as the "Christensen definition" the facticity nullifies Section 1706. But even though many senators and unover though many senators and unover though many senators and unoversibility of the senators and the senators are used to be senators and unoversibilities to the senators are used to be senators and unoversibilities are repeal of Section 7706. But Senators 1820 for the senators are under the senators of the

independent contractor provisions. A House/Senate conference committee this most hold lills, and the Christeanen definition or a composite may emerge. The compromise may come from Senate bill S.46o, which repeals Section 1706 and requires the IRS to recognize the validity of incorporated

Is manageri are trying to meet their staffing needs. Wedners want tax credits for continued unaining. And more foreign professionals are being hired because our laws make such hiring easier than using homegrown independent contractors. Int'l it time to ask Congress to do something about it'd.

Lipson is president of the National Association of Computer Consultant Businesses. Skulman is general counsel for the group.

Go for the big bang, but not too often Michael Schrage

er's say you're, oh, 45 pounds overweight. You know you're not really healthy; you're sick, of dragging yourself around and tired of trying to squeeze into things that no longer fit. You decide it's time for a major change. Money isn't the top issuie. So what choice would make the most sense for you?

Would you a) opt for the significant but gradual lifetiple distributed of california and califor

Most IS organizations from themselves caught in comparable debases about whether they should take a "big bang" approach to a systems switchover or whether the gradual, incremental apposach is best. Yes, the choice is frequently out of the hands of IS. But this is one of those debates in which both sides can make valid, cost-effective and culturally pertinent cases for their positions. But after chatting with a few systems integrators and CIOs, I'm firmly convinced that the big bung is the way most IS organizations should go. The reasons?

Politics and pragmatism.

Thèse are times when managing events is seen as every bit as important as managing processes. The visibility—and smootinet risks—of a hard dendline and the reality that the organization will be a different place come a certain date focuses the corporate culture in

focuses the corporate culture in a way that subtle changes over time simply can't. It's Machiawelli redux Make no small plans — big bangs bespeak boldness. They command and demand attention. And, let's face it, attention is one of the most valuable commodities in an organzation today. To be sure, you want the right kind of

attention. To perform a radical systems switchover in such a way that people can hardly sell what happened may be virtuous technology management, but it also can be an act of self-destructive organizational stupidity. A CIO who doesn't do a decent job commanding his estiretypies's "attention economy" spends the bulk of "attention economy" spends the bulk of

his time on outsourcing.

Not cointidentally, does anybody anywhere in America know of a successful outsourcer/systems integrator who doesn't believe

in the virtues of big bangs? Do you think SAP, Andersen Consulting and EDS rose to global prominence by



practicing the gradualist gospel for their clients? These folks talk transformation, not incrementalism. Experience has taught them that the shock of the new is a better business model than a warm bath of femiliarity.

Today, big bangs are about creating ugency and credibility for change. But use them stategically. By the end of this decade, we'll probably be complaining that they're another reason for 1S cynicism. We do an excellent job of putking useful management ideas beyond diminishing returns, don't we'll.

Schrage is a research absociate at the MIT Media Lab and anther of No More Teams! His Internet address is schrage@media.

{

WITH DISTRIBUTED APPLICATIONS, A PROBLEM



IS ONLY A PROBLEM IF YOU DON T

SEE IT COMING

!Candle

Direct model claims victory

DAVID MOSCHELLA

T'S OFFICIAL. If you buy your PCs from a direct vendor such as Dell. steway or Micron, you will not only

save money, but you will also probably be happer. That's the unavoidable conclusion of Computerworld's recent enterprise PC customer satisfaction

As detailed in this issue's Buyer's Guide (page 66). Computerworld has surveyed more than 1,600 PC buyers at medium-size and large U.S. organizations, generat ing statistically valid data for the top to desktop and notebook

The research could hardly be more timely. Sales from direct vendors are booming, forcing Compaq to publicly debate the future of its traditional channel an proach. Going into the sur vey, we were confident that

customers would recognize ice advantages of the direct model. But how would their enterprise services compare?

The answer is clear. Selling direct isn't just about eliminating reseller commissions. It's about knowing your customess, getting them the latest technology. configuring systems as needed and testing for compatibility and rapid service re-sponse. In those and other areas, Dell consistently scored big, almost always mong the top three vendors across the te desktop and notebook categories mea sured. Gateway and Micron were just a small step behind. The former was strong in desktops, and the latter very

strong in notebooks The only channel-based player to match the scores of the three direct vendors was Hewlett-Packard, which contin ued its remarkable streak of being first or second in every category it competes in across our network, enterprise systems and now PC satisfaction surveys. HP's overall record is so strong, it makes you wonder if somehow it has just trained its

ers to always report how happy What about the traditional PC giants? Compaq's results were uninspiring, especially in notebooks; the No. 1 PC vendor was rated average for most product and service categories. Like Compaq, notebook giant Toshiba will find little comfort in its generally mediocre scores

For IBM, the results were more damag ing. Its desktop ratings were consi low average, especially in terms of rdware quality and cost of ownership Its notebooks faired better in quality but ced similar value concerns. From a broader perspective, the suc

cess of the direct approach should be seen as a success for our industry. Infor tion technology makes direct vendo ss customization and one-to-one marog possible. It enables them to keep up with ever-changing and highly com plex technologies. It's a big step toward real electronic commerce and provides a compelling proof-of-concept story. Other adustry sectors surely will notice. For vendors still using a tradition

reseller strategy, this research is perhap a final warning. The PC industry has found a superior sales and service apeach that will only gain momentum as long as PC technology continues to change rapidly. Technology-enabled mass customization can provide the highest quality and the lowest price Deep down, channel-based vendors know that tinkering with processes just won't cut it. It would be a dangerous time to remain in denial. O

Morchella is senior vice president of research at Computerworld, Inc. His Internet address is david_monthelia@cu.com.

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Corporate Strategies

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Briefs Outsourcer

SCOTES retail win

► IT system assists ball teams with sales

By Thomas Hoffman BALTIMORE

BASESALL PURISTS detect changes of any kind to our national pastime, such as the introduction of interleague play But when it comes to base ball's use of information technology, purists haven't had much to worry about - most of



den Yards "is like Christmas eight days in e rew"

the hot dogs and hats sold at America's ballparks are still racked with pencil and more But small-city franchises such as the Pittsburgh Pirates "have to optimize concessions to survive," said Bruce Rogow, a former Gartner Group, Inc. analyst who is now an independent consultant in Marblehead

CONSULTANTS

Firm saves independents from red tape

By Islia King

RED TAPE, ever-changing as counting rules and a better than average chance of a tax audit are the triple career whammier that most freelance IS consul-

But not Janet Saulter-Hem mer, a 42-year-old informat systems trainer in Parsippons

On a daily bosis, Saul Hemmer functions as an inde her work assignments and setting her rates. But to the Internal Revenue Service, she looks rust like an employee - one who receives a regular salary and an annual W-2 wages statement under a unique working arrangement with McLean, Va-

based Netplex Group, Inc. "I have total control over my arketing and my clients

Saulter-Hemmer said.

Pacific Bell lures users to Internet for self-help

By Kim Cirard

PACIFIC RELL INTERNET'S IN dith Meskill knew that paying internal staffers to answer ques tions that customers could easimoney lost for the Internet ser

So Meskill searched for a World Wide Web-based service that would enable business and residential customers to quickly find their passwords or fix their

Her search fell in line with a growing trend toward online self-help services that can reduce the use of costly call cen-

"The major challenge in this industry is to craft call-avoid ance strategies," said Meskill, Self-telp service, page 39

Web tool helps fight world poverty



A U.N. program's Web site helps fit such as these soll and water conse int rural powerty by sharing info

- Typically male, 36 years old, owns his own home and is married with
- Average earnings of \$63 per hour or \$120,000 per
- 25% exceed the average. ring up to \$180,000
- ntly there are 1.25 in independent suber consultants,

poverty, a program that helped farmers in the hills of Nepal might have useful lessons in the highlands of South America But how would anyone find out? That's what the [Internet] is for," said Pierre Spitz, director

► U.N. Web project

shares experiences

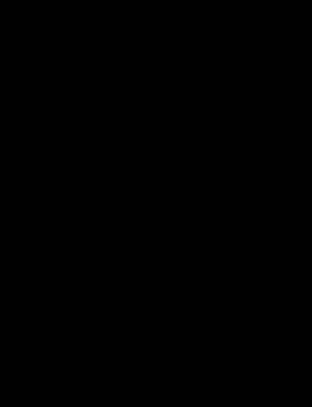
By Sharon Machlis

of the United Nations Interna-tional Fund for Agricultural Depoment's (IFAD) office of ation and studies in Rome IFAD set out on a two-year roject to develop s con IN THE FIGHT against rural ized knowledge base culled

from 461 projects undertaken since 1978. Initially, the data resided on an internal network. But since last month, a revised version has been available on the World Wide Web (uwu

We want to become a knowledge center on fighting rural poverty," Spitz said, "People can am from the experience of others. [Programs] need to be

Spitz said the internal net work has already helped similar projects in Ghana, India and Nicaratua to learn from each other, as experiences help formulate suggestions for what to - and what not to do -



Corporate Strategies

Casa Studies + Trands + Outsourcing

Briefs

Entex wins contract

/MCI venture

k care breadcast

Independent computer consultant facts

- Typically male, 36 years old, owns his own home and is married with children
- Average carnings of \$63 , per hour or \$120,000 per
- . 25% exceed the average earning up to \$180,000 ner vear
- . Currently there are 1.25 million independent computer consultants increasing 17% annually

Date: 220 Inte

Outsourcer SCORES retail win

 IT system assists ball teams with sales

By Thomas Hoffman RASEBALL PURISTS delest changes of any kind to our na-

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▶ U.N. Web project shares experiences

Do Charan Markin

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isadeval.org)

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Outsourcer scores win

have nowhere near the same technological sophistication of even the most primitive retailers," said Rogow, who is famil iar with operations at several

hall clubs. The Babe Ruth of the managed services market, Aramark Corp., is trying to change all that. The Philadelphia-based vendor, which runs retail operations at nine major league stadiuins, 70 professional sports facilities and 18 convention centers, has been running an

automated point-of-sale/inventory system at Oriole Park at Camden Yards for the past three Retail Automated Merchandising Systems (RAMS) from Richter Systems, Inc. in New York has helped Aramark boost sales by making sure the right inventory is on hand. That eds the flow of merchandise and slashes sales costs by minisaid Cindy Troll, a marketing analyst at Aramark's leisure ser-

The RAMS system, which runs on a SCO/Unix server, is "able to highlight any shortages we might be facing on a daily basis," said Troll, a five-year Aramark veteran who came to the services giant as a free agent in 1992 after a stint at New York-based Macy's.

HIGH SALES For an eight-game Onoles homestand, where the team

consistently sells out the hallpark, sales in the main gift shop is like Christmas eight days in a row," Troll said. Retail traffic gets even zanier when the Orioles play a nearby interleague opponent such as the Philadelphia Phillies, as they did on a recent homestand earli er this month. "It gets crazy here - this is a slow night for us," said Glenn Szymanski,

store manager at Camden Yards'

main gift shop, where mor than 100 people jammed the store before a recent Orioles/ Phillies game

RAMS "helps identify when we're having a run on Cal Ripk en Jr. T-shirts and keeps the lines moving quickly." Szymanski said. At the time, quick-moving lines in the store were never more than three people deep. Troll placed Aramark's software investment in the fivefigure range, not counting the more than 50 point-of-sale terminals Aramark had to install at Camden Yards. She placed the

payback at less than three years. And Aramark last year won a multiyear contract to handle merchandise, food and beverage

concessions at Atlanta's new Turner Field. Although hun-dreds of factors weighed into the Atlanta Braves' decision behind selecting a services vendor, Troll said she is convinced that its use of IT played a key role. Outsourcing customers such as the Braves and Orioles "want to see something that's arst century and something that lends em competitive advantage," Troll said II

Web tool helps fiaht world rural poverty

CONTINUED FROM PAGE 37 when spending money on agri-

cultural projects.

The Evaluation Knowledge System contains "lessons learned" from the \$5 billion spent by the agency during the past 18 years.

This is one of the most complex projects I have ever done," said Paris-based computer consultant Diaa Zenie. viewing software from Micro-

soft Corp. and proprietary appli-cations developed in C++ and Delphi. Data is then translated into Hypertext Markup Lan guage for the Web version. The information is altered somewhat for the Internet so that individuals involved in the programs can't be identified. Arone that don't have Internet ac

con cup receipe a BC restrict on

diskette.

The project offered uniqu challenges because of its world wide nature, with project membeen located in Argentina, India Morocco, the U.S. and Europe Zenie said.

system goal was ease of use, design wasn't the usual process of drawing up specifications and developing a system, Zenie said. tead, he would come up with an initial simulation, send it to many testers for comment, and then make modifications -

again and again. "To be honest with you, sometimes I had to knock my head against the wall during the development, but I am very happy with the results," he said When you finish, you have something that is multicultural too, (that can be) used by rural poor themselves."

The one truly open email and groupware solution

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Self-help service

director of product and systems development at Pacific Bell In-

ternet in San Francisco. Customers are becoming less sophisticated, and there are not enough people to answer phone questions. Prople who can't program their VCR are

now using cutting-edge comput or technology," she said. Several months ago, Meskill's crew installed Eservice, Web-

based software from Silknet Software, Inc. in Manchester, N.H. Pacific Bell Internet's selfhelp service went live July 1. The system connects a knowl-

edge base with answers to 40 of the most common software installation problems to Pacific Bell Internet's Web page (public.

If users can't find answers by searching the Web page, they can submit a trouble ticket or make a telephone call. Answers can be returned via electronic mail or a return phone call. A knowledge base from Edison, N.J.-based Advantage KBS, Inc. narrows the search by asking the user to answer questions. Using the knowledge base, information systems employees can handle a typical 15-minute So far, Meskill said, 40 of Pacustomers have found the service. She said many more will take advantage of the tool be-cause it is available all the time and can eliminate phone waits. calls from 15% to 20%, you're in good shape," Meskill said. Hugh Rishop, an analyst at

the Web instead being of a Web interface built on top of an old system made to track and log Aberdeen Group, Inc. in Bostrouble tickets. Because Eservice on, said the Silknet system differs from offerings from rivals ware isn't needed.

tive Corp. In Santa Clara. Calif., and Scopus Technology. Inc. in Emeryville, Calif., because it is built on ActiveX, a technology for posting Windows programs to the Internet. That

Benefits include lower-priced group health, life and liability insurance. The company also of-fers help with financial planning and changing tax laws. "As an independent, you have ods of feast and famine. said George Menendez, a con ultant in Morganville, N.J. "So I look at my projected income, then have Netplex pay me at a tain rate so that it evens out

best of both worlds. Benefits for Netplex go beyond the 4% fees it collects for consultants' backoffice tasks. Eventually, the company plans to get more involved

carriers, Pacific Bell Inte likely ahead in the online selfhelp game simply because few companies are tackling such projects, said Robert Marani, a lyst at The Yankee Group in Boston. Coupled with an auto voice-response system, a Web-based service could cut helpdeak calls by 70% after six

in the staffing business, collect-ing additional fees for workers in places on projects.

"Our goal is to culti farm team of talent that we could channel to our own customers," said Gene Zaino, Netplex's CEO and a former tax accountant. "Our strategy is that we'll be able to find (consultants) other projects from time to time, and we'll earn a margin

the cash flow, It gave me the Earlier this month, Netple launched a service aimed at em oyers, many of which now shy away from independents for ar that the IRS will reclassify them as employees. O

Independents

In exchange for 4% of her erative for independent technical workers, Netplex has grown

earnings, a Netplex service representative dedicated to her account processes Saulter-Hemmer's invoices, tracks and pays her expenses and goes after deadbeat clients for payment. Tre had clients who have

gone over 90 days and not paid, and [my Netplex representative] has been like a pit bull," recouping payments as high as \$10,000, Saulter-Hemmer said.

to 280 consultants who work as employees under its Indepen-dent Employee Services pro-gram. Consultants' fees are funneled into individual profit center accounts against which the workers' salaries and expenses are drawn.

Netplex employees pay for their own benefits but together would as individual contractors. Starfed 10 years ago as a coop-

has been staring you in the face for over two years.

beyond the traditional boundaries that restrict existing proprietary solutions.

To come face to face with the future of communication and collaboration visit http://home.nerscape.com/ad/cworld and try out Netscape's latest email and groupware solutions. Or call 888-777-0159 for a Netscape SuiteSpot test drive CD. The Internet Company

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to keep up, or, dare we say it, get

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Briefs Surfing surrogate saves time Pentagon to

▶ PoliTech clients include candidates, lobbyists

By Craig Stedman

THE INTERNET PUTS gobs of information at everyone's finger-tips. But not everybody wants to while away the day surfing the

Web for data Take Keith Schuette, for example. Schuette, a political lob-byist in Washington, used to set aside an afternoon each week to browse the World Wide Web for news articles, trade reports and other postings related to his foreign-government clients.
"Not that it wasn't fun and

fascinating, but I get paid to do other things," said Schuette, director of international operations at lobbyist William D. Harris & Associates, "There's just no way that I've got time to go around and hit all the sites that report on [my clients]." And the surfing process was

chewing up more and more of Schuette's workday because of the never-ending upward spiral in the number of Web sites, even for Bolivia and the other relatively obscure countries be



Schuette could have hired an in-house researcher to do the clicking for him. But instead, he rced his Web browsing to PoliTech Research, Inc., a Res ton, Va., company that in January began offering to surf the Inrnet for political candidates lobbyists and multinational cor

Now Schuette gives data col-C O M M E N T A R Y

lection guidelines to PoliTech. which finds relevant material on the Internet and analyzes it for accuracy and impact. The infor-mation is collated into paper reports and stored in a data that Schuette can access via an extranet. The service costs out what a full-time research er would, "but it's more sophis Web surfing, page 42

get updates online

By Mitch Wagner

IN ON 2 OF the largest electronic software distribution deals ever, two Department of Defense agencies have signed a \$50 million deal with Software.net to receive updates to

Microsoft Corp. applications over the Internet.
The Defense Logistics Agency
and the Department of Defense Procurement Agency expect to save \$10 million compared with the cost of buying the same pof ware through conventional channels. Software net, a service owned by CyberSource Corp. in San Jose, Calif., will deliver the

software to 70,000 federal em The Pentagon agen-cies selected electronic software delivery over

well as 6-

nances, said Arthur Bailey, a spokesman for the De nse Logistics Agency, which

ministered the contract "The advantage to doing it electronically is the amount of time you save," Bailey said. thing reliable. The applica-The installs can be done in the nighttime, across the networks, and when empleyees come in in the morning, everyone is updat

ed with the same version of the The electronic distribution al so will make it possible to up-date software with the click of a button rather than having to send employees around the hand. That will save employees

time and will make it easier to ensure that employees are using the same software versions, which will minimise compati-

Business on 'net? Phooey

MITCH WAGNER

WO YEARS AGO, the big news for Internet doors sayers was that the Internet was going to melt down in 1006. This year's smaller bews was that the same doomsavers spologized, saying it looked as if bry were overly pessimistic and that the Internet was just fine af-

Phoney on that, say I. The Inrmet did melt down. It's just that we were all so busy down-loading the latest bug fixes and patches for our Internet softare, we didn't notice.

The Internet's notorious unreliability is its biggest obstacle to widespread acceptance as a am commerce chann

- more so than security, ease-

of-use and other barriers. We hold a higher standard of tions channels such as tele sones, overnight delivery com and faxes. We ex-

almost all the time, and they do. The come a real tool for business until it can meet the same

high standard. As long as you can't be sure of getting an Inter nection, the Internet will always be an alternative commications channel - some

net today are things such as package-tracking applications and human-resource information lookups. In those applications, if the E-mail Web server is wn, it's no big deal. You can just try again later. And if worse comes to

tions that run well on the Inter-

I had plenty of time to ponder this subject recently when my Internet connection went down

weest, you can nick

up a phone or send



Pentagon updates online

has its potential pitfalls, which have prevented many companies from adopting the technology, said analyst Amy Wohl, president of Wohl Associates, a consul-

to five years, according to a recent survey by "Softletter," an industry newsletter in Watertown, Mass. cy in Narberth, Pa. One concern is that some of the software might arrive "If a line blips while I'm capturing the wrong bit, and I don't find it for a few

weeks - after I've already distributed it to 70,000 people — that can wreak a lot of havoc." Wohl said, "And I can avoid that by waiting a day for the CD-ROM to come [via] FedEx."

nic software distribution is a small but growing channel for getting software into user hands. Software com-

Web surfing gets outsourced

ticated," Schuette said.

PoliTech uses a variety of Web search sols — including Fairfax, Va.-based Iso-Quest, Inc.'s NetOwl text analysis and data extraction software — to look for in-formation on political issues and poten-tial political risks in foreign countries. The company has about ao clients thus far, said Bob Liscouski, its president.

Black America's Political Action Committee (BAMPAC), which supports con-servative blacks running for office, recently started relying on PoliTech to surf the Web for prospective corporate donors and other sources of fund

"We have access to the Web, so we're not in the Dark Ages here," said Alvin Williams. RAMPAC's executive director in Washington. "It's more a question of time for me. There's a wealth of information out there, but getting it and culling it is the ball game. That's very laborious."

For resource-strapped organizations, a service such as PoliTech's can open up the data riches of the Web, said Carl Frappaolo, an intranet and document management analyst at Delphi Consulting Group, Inc. in Boston. But NetOwl and other emerging search tools should make Web surfing less overwhelming for indisiduals he said

Even so, the Internet doesn't seem to be putting people such as Mercay Pinder out of business. Pinder, a research analyst at Advanced Manufacturing Research, Inc. in Boston, said the Web isn't choking off the inquiries she gets from the consulting firm's user and vendor

The answers Pinder finds are often available to all comers on the Web. "But when you have people at a senior level, a lot of them don't even look at the Internet because it takes so much time," she end D

Traditional distributors such as Tech Data Coro, in Clearwater, Fla.; Mensel, Inc. in El Segundo, Calif.; and Intelligent Electromics, Inc. in Exton, Pa., are outsourcing services to companies such as CyberSource and LitleNet LLC in Lowell, Mass., to provide back-end distribution

Software.net will post the software to a secure, password-protected World Wide Web server that can be accessed by desig-

nated Defense Department employees on the same day the software ships from Microsoft. Included in the contract are Windows NT Server, Exchange, Internet Explorer, Internet Information Server, Front Page and Microsoft Office or.

The software is encrypted for travel ver the Internet using Ziplock from Portland Software, Inc., which uses encryption algorithms from RSA Data Security, Inc. C

SIEMENS

ect about 30% of their revenue

to come from electronic channels in two

Before you buy another phone, check the



Wagner: Business on 'net

ONTINUED FROM PAGE 41

I eventually discovered that my main Internet service provider, Uther Technologies, had suffered a major outage the day I had my problems. My bright idea of having a backup Internet service provider would've worked fine — except my back-

up provider was Netcom On-Line Communication Services, and Netcom had a bad hair day at the same time as UU net. "It's like booking passage on the Titon is with backup reservations on the Hindonburg." my editor said. By now, Internet veiceans who've read this fit are grinning in roteful agreement. Beeryloody who's been on the Internet for a while has stories like roine. Consider now recent tools in the bendlines:

"I Thade Group, a Falo Also, Calif, company that rust an online stock-trading service, suffered an Internet server cande the story of the California of t

tomer queries.

Beven Microsoft has problems keeping its Web site available. Its site has been subject to slowdowns and outages recei by, problems that Microsoft officials

blome partly on backer attacks and good on their own failure to configure the We site to handle the traffic load generated.

**Birrene Network technology estimation that the call failure rate last month for 1 top finternet service providers was about one in eight — down substantially from March, when more than a fifth of all call failed. For America Online alone, mothan a third of all calls has month failed.

By the way, when I added for Inverse's latest reliability figures for this column, my contact at leveree said. "In E-mailing that out right away." And she did to the information didn't arrive in my in-box until an hour later. Guess the message just stopped off for a beer on the way or something.

When even the 'net experts can't get it to perform promptly, it's a sign that significant improvement is needed before it's ready for regular business folks. O

Wagner is Computerworld's sonier editor. for electronic commerce and the Internet. His Internet address is mitch_wagner() cu.com.

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The Future Is Coming To Us



N O D U C T S

iary of General Automation, Inc. has announced Web Publisher, software to let users build interactive World Wide Web applications using a MultiValue database. According to the Vancouver, British Columbia, company, Web Publisher

nase.

According to the Vancouver, British Columbia, company, Web Publisher works with popular Web, Hypertest Markup Language and Java publishing tools to build custom applications to provide easy access to existing MultiValue database environments. It works with popular Web browsers and doesn't requirec (programming, It costs \$459.

It costs \$495. Liberty integration Software (714) 250-4800

MACROMENA, INC. has amnounced Authorware 4 Interactive Studio, software tools for creating World Wide Web-based interactive learning applications' for corpora-

netet.

netet.

prices features in the latest version inprices features in the latest version include the ability to incorporate all Macromedia Shockware file formats in
Shockware Authorware applications, inShockware Authorware applications, including Director, Flash and Shockware
Audio. Copporate intrants users in
more easily maintain an online distance
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The Enterprise Network

LANe . WANG . Natwork Management

Briefs User plea: One directory for all

Hell cell

 Meta directories save money by simplifying information structure

By Barb Cole-Gomolski

MORE THAN 2 wear into a proect to consolidate all the directory data on his users into a single browser-accessible datal and Tim Brandt is less than half done But he's still ecutation

The project's goal is to elim nate the need to search at least five major directories of electronic mail, the telephone system, network operating sys tems and other applications to

The directory now stores data for about 30,000 of the com pany's 65,000 employees. But Brandt, a senior consul

ant at a large manufacturer in the Midwest, said he is happy to have gotten this far because there is no master plan for building a meta, or universal, directory.

ole, it took Brandt tion, which cuts adm three tries to determine that the resources directory

ald be the standard format after attempts at using the telene directory and Banyan Inc.'s StreetTalk cored futile because of propri

Meta directories synchronize formation from various directories and present it in a single view to end users. They also present a single place from which to mariage user informaElectronic-commerce applica-

ions will probably rely heavily on directories to track security certificates and find information shout individuals sense come nies, said Jon Oltsik, a senior hyst at Forrester Research

Inc. in Cambridge, Mass. A recent study by the research firm showed that the avera

Fortune 1,000 company has 181 rectories and that 42% syn-Meta directories, pece 49

an earlier, more unwieldy utility

in Windows NT s.c. to let ad-

ministrators restrict and modify

Windows os desktop configura-

ows NT Workstation and

it Financial Partners, Inc. in Agawam, Mass.

For example, to

Third-party management utilities

Users shore up Win NT weaknesses



instructor at Tech

That is because,

asn't significant

line Windows

Teach offers Windows NT ining classes (see related stom Policy Editor replaced

agement facilities are turning to third-party products that comoft has left a lot of critical items off Windows NT adthe ones they do address are a point to use," said Scott Rackliffe, assistant vice president of terms at Farm Cred-

discover the trustrights of a p or a user. Rackliffe said he ust go into File Manager and

ight a directory, select and

TROUBLESHOOTING

Spec shows how apps perform

By Patrick Dryden

AN EMERGING technique for suring the performance dient/server applications

The Application Resp evenent (ARM) spec tion, pioneered last year by rwiett-Packard Co. and Tivoli Systems, Inc., provides hooks

within vital business programs that enable external tools to monitor response times.

Vendors and users in th ad hoc group that defined the application programming interface (API) last week proposed

two more functions. They beef up the API's perermance moni toring focus by revealing trou-

"We can moni tor system and

The ARM son

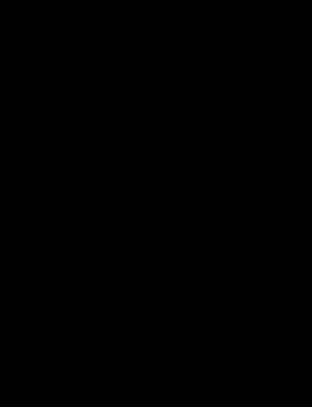
network performance, but we need a way to de termine if our applications are functioning correctly," said Dennis DeMari, technical sevvices manager at Factory Mutual Engineering Associates in Norwood, Mass

ARM is catching on as a way for managers to provide "mean ingful service-level statistics" to users through "a view from the application's perspective instead of just from the network and the son, chief technology officer at Neeplex, a systems integrator in McLean, Va.

Commercial Airplane Group and Citicorp participate in the ARM working group and are taking steps to outfit their applications with the evolving API. Monitoring transacti sponse time promises to be a

active way to detect emerg





The Enterprise Network

LANs + WANs + Network Menesement

Mail celi E-mail is the most widely

developed networked application. About 90% of corporate workers

ndView tracks assets

LAM modes links

Briefs User plea: One directory for all

 Meta directories save money by simplifying information structure

By Bark Cole-Gomolski

MORE THAN 8 year into a proj ect to consolidate all the direc tory data on his users into a sio gle browser accessible database and Tim Brandt is less than half done. But he's still acetatic

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The directory now stores data for about 30,000 of the contpany's 65,000 employees. But Brandt, a sensor consultant at a large manufacturer in the Midwest, said he is happy to have gotten this far because there is no master plan for building a meta, or universal,

Meta directory pros

Lowers administration

- Improves user access to directory
- information Helps deployment of electronic-commerce
- applications For example, it took Brandt

three tries to determine that the human resources directory should be the standard formal after attempts at using the telephone directory and Banyan Systems, Inc.'s StreetTalk proved futile because of proprietary interfaces

tories and present it in a single view to end users. They also present a single place from which to manage user informa-

Meta directory cons # Requires a lot of

- custom programming
- rectories that cross

tion, which cuts administration time and costs.

Electronic-commerce applications will probably rely heavily on directories to track security certificates and find information. about individuals across companies, said Ion Oltsik, a senior analyst at Forrester Research Inc. in Cambridge, Mass A recent study by the research

firm showed that the average Fortune 1,000 company has 181 directories and that 42% syn

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"We can moni tor system and network perfor-

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wood, Mass. ARM is catching on as a way for managers to provide "mean ingful service-level statistics" to users through "a view from the application's perspective instead of just from the network and the systems," said Frank Henderson, chief technology officer at Netplex, a systems integrator in

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proactive way to detect emerg-

information from various dures

· Third-party management utilities

Users shore up Win NT weaknesses

set is your top network

directory.



Ry Laura Di Dia WINDOWS NY USERS Who are weary of grappling with the opcrating system's multiple management facilities are turning to third-party products that combine the functions

of several utilities in one package. That is because. with the exception of System Policy

Editor, Microsoft hasn't significant by enhanced the baseline Windows utilities for the past two years." sand David Sheridan, an

instructor at Tech-Teach Internation al, Inc. in Arlington, Va. Tech Teach offers Windows NT

training classes (see related story, page 49) System P stem Policy Editor replaced

"Microsoft has left a lot of critical items off Windows NT administration, and the ones they do address are a pain to use," said Scott Rackliffe, assistant vice president of information systome at Earn Cred it Financial Partners, Inc. in

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Anawam, Mass.

For example, to

discover the trust-

highlight a directory, select and call up the permissions object Wis NT weaknesses, page 49

TROUBLESHOOTING

Spec shows how apps perform

By Patrick Dredon AN EMERGING technique for measuring the performance

of client/server applications gained troubleshooting capabilities last week The Application Measurement (ARM) specifica-

too, pioneered last 'year by Hewlett-Packard Co. and Trioli Systems, Inc., provides hooks within vital business programs

that enable external tools to monitor response times. Vendors and users in the ad hoc group that defined the application programming inter-

> The ARM spec addresses the need for

service levels and isolatino

Ann performance, page 45

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chronize their directories man-

The survey also showed that meta directory projects aren't high on most chief information officers' lists of precrities, Oltsik said. Making matters worse, most companies don't have a person or team in charge of dictory management, he said. Brandt said he would achieve better results if there were a way to make directory data easier to synchronize. The software he uses, Via from Zoomit Corp. in Toronto, takes redundant direc-

and Tim F. Brandt are the same person, he said. That's who so much of the firm's data has een left out of the directory. Zoomit, which introduced its first meta directory about a year ago, this week will announce an

unorade and a single-log-on product that company officials said will make it easier for Via to synchronize directories The new version, due to ship by year's end, adds support for several Internet protocols, Netscape Communications Corp.'s Directory Server, the developer's

another directors release of Microsoft Corp.'s Active Directory and Novell, Inc.'s Novell Directory Service. The software already supports 15 oth-

er directories. The log-in service lets Windows 95 users access multiple systems by using one name and password. Secause the log-in service is linked to all the directories on a network, it will automatically improve the product's ability to recognize users, company officials said

HARD SELL The meta directory is on our

list of things to do, but it's hard to make it a priority," said Terry Mitchell, an architecture platinine analyst at Consumers Gas Co. in Toronto. Mitchell said meta directories are a tough sell because "people just think it's

If the utility can get its project going, it will gain a single point of control over directories sto in Lotus Development Corp.'s CC.Mail, Microsoft's Windows

Windows NT.

Peter Tagatac, a Windows NT engineer at Merrill Lyuch & Co., a brokecage firm in New York, called Hyena an "invaluable tool" that saves him hundreds of configuration and setup bours

"Hyena is the best product on the market right now for meld-ing the functionality of several

management utilities into one," Tagatac said. He said he no longer opens up multiple, separate utilities to perform routine functions such

as tracking active sessions and creating shares to make directories accessible to all users on the network. "The load times for each of the Microsoft utilities are too long for a large environ ment. Considering that we now have 5,000 users and are growing to a8,000 within a year, the

time savings as phenomenal." be said.

OND ANSWERS Later this year, Microsoft Corp. will buttress its own man ment cambilities when it ships the Microsoft Management Console (MMC), an add-on package that will provide users with a unified mechanism to manage the Windows NT Serv-

ers and services "Microsoft's MMC will unify many of the bits and pieces of the operating systems. But it's tual, not immediate," said David Strom, president of a con-

sulting and testing firm in Port gton, N.Y. MMC will ship with Micro-Informati soft's Internet

Server 40 in the third quarte and eventually will ship with every Windows NT-based prodNT. Novell's NetWare and seve al in-house applications. "A meta directory pulls it all together," Mitchell said. "But it's not sething you load on a Friday tht and have running on Monday morning."

ries have caught the attention of large sites that need to solve the oblem now. Microsoft has elped to raise the issue by hyping its Active Directory, whi will be available next year.

ADD Derformance

ing problems and track perforce levels, according to George Sullivan, director of the ank systems and network management resource center in Reston Va

to the ARM API specifically address the need for reporting ser vice levels and isolating prob lems, Sullivan said. The original set of six simu

calls lets developers label the key business transactions at the heart of their client/server appli cations, for example, and identify the start and stop of each transaction. Then information systems managers can apply tools directly to those applicans, measuring the respo time experienced by users.

Two enhancements are expected this fall in the ARM a.o developer's kit so that developers can reveal more details. The end-to-end rest

can he subdivided into components, so monitoring tools can decipher how long the transaction took to pass through the client, the network and all serven before completion. And response times can be

out in context by new variables. so monitoring tools can determine if a problem exists based on expected vs. actual transac-Non time.

Thus next step is great for bleshooting," Henderson said. When a monitor detects slowed performance by an appli cation, "we can quickly focus atstion on a problem with the tabase back end or with a router port," he said. Vendors that already support the current ARM API in their

ns, Inc., Candle Corp., HP and Tivoli. Also, Unify Corp. in dudes support in its develop ment tools. Support is on the way from

endors such as Compuware orn. Landmark Systems Corp., Oracle Corp., SAS Insti tute, Inc. and SES, Inc.

Growing support for the ARM API bodes well for future applications rather than those that IS managers are running or deploying now. Current applications must be upgraded to in-clude the ARM calls, and even proponents acknowledge that defining individual transactions can be difficult.

For example, DeMair is inves tigating ways to evaluate the performance of applications this month. The ARM API and compatible mountaing tools promise advantages for an order-management application

because that project is rust beginning, he said But to track the perform of another application that is being deployed now, DeMari said. "we're under a time constraint, on the alternative is buring

onitoring tools include BGS canned packages." [2] ARMED FOR MONITORING

the specific components of a transaction to the cause for slow response time

Win NT weaknesses

CONTINUED FROM PAGE 47 and then repeat the process for

tory information and turns it in

to a single entry. But the system

doesn't always recognize that,

for example, Timothy Brandt

Last year, Rackliffe's biggest complaint was the dearth of tools to manage Windows NT

Users turn to third parties to circumvent problems such as how to meld various management facilities into a single in

terface, manage disk quotas and restrict concurrent log-ins. One popular tool is Hyena from Adkins, Texas-based Adkins Resource, Inc. It shipped in Merch and mets too for a sm. gle-user license and \$600 for a

er interface. Heena lets administrators manage user accounts, servers and workstations on the Server domains and the file THIRD-PARTY PRODUCTS

Competitors include Computer Associates International, Inc.'s

al of Windows NT's basic man-

ement functions into a brows-

Chevenne division in Roslyn. N.Y., which sells the ArcServe backup software, and CA itself, in Islandia, N.Y., which offers Unicenter for NT, an integrated scheduling, security and backup package. Intel Corp. in Santa Clara, Calif., sells LANDesk, a site license. Hyena melds severset of administration tools for

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nanages the Windows HT di





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Briefs



One wild ride

Dutch amusement park whips system into shape after data overload crashes installation

CATHEUVEL,

THE NETHERLANDS INSTALLING SAP AG'S R/3 CM be a roller coaster of a ride.

acly for the empl at De Effeling BV amusement park in eastern Holland, roller

So IMPLEMENTATION collection when the park's new computer system based on R/3 collapsed soon after the

park's opening day last year, the staff at De Effeling had to act "In April of 1996, we were ready to open," said Hennie

lipelaar, manager of informa bon and automation at the park "Everything we wanted accord-ing to plan was installed, and we thought everything was under control. Then Effeling opened, and everything collapsed."

linelaar said the timblem was less with R/3 than with one as

old as computing -- "garba in/garbage out." Too few peop were trained well enough on the system, and many were load bad data. That caused R/3 to spir

out faulty reports Those reports are a vital part of managing the rapid growth of the 45-year-old park. De Efteling originally was a

sports fields built by two local priests for area It has since become a full-

scale amusement park with more than 3 million visitors from April through October — much like a Dutch Knott's Berry Visitors no longer play soccer

but instead ride a quadrupleloop roller coaster, play golf at a newly opened course and stay at a new 120-room hotel. And De Effeling's staff must

use an R/3 system to manage SAP R/3, page 54

· Java applet lets public take closer look at planet

You, too, can search for life on Mars

By Sharon Gaudin

EVERYONE AT Sun Microsys tems. Inc. has been saving that large is out of this world. Now it seems the technology may actually be getting pretty close. NASA's Pathfinder lander module touched down on Mars

on July 4 and started sendi back photos from the surface of the red planet within 24 hours. NASA developers have been counting on a Java applet to send those pictures from a central database over the Internet to scientists and the curious

"The Java applet allows the public and our scientists to look at the photos from the mission," said Paul Backes, a tech nical group leader at NASA's Jet Propulsion Laboratory in Pasadena, Calif. 'There is a 160degree mosaic of images from the landing rover. Anyone can use their beowser to download the applet, make a 3-D rover



drive over a terrain map and take a closer look." Sponsored by Sun, the World Wide Web site with the Java applet is at mors.grohom.com/wits The applet can be downloaded through a browser to give a user a tour of the surface of Mars.

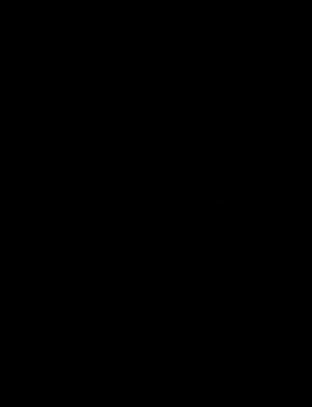
Photos from Mars have been available at the site for the past Backet said he initially had some concerns — based on comments from critics — that

mands fast enough to handle the job. But days after the land

ing, speed hasn't been a problem, he said. "Our first use of lava and the Internet to bring this informa tion to the public is working out great." Backes said. "There would have been no other way to do it, lava is the enabling tech-

nology. Think of all the people

Java tools



Software

Databasas + Davelapment + Operating Systems

Briefs

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ew PeopleSoft units

to cater to the need ies and tra e units to help tailor it



Everything we wanted according to plan was installed, and we thought everything was under control. Then Efteling opened, and everything collapsed. - Hennie lipelaar. De Eftelina

One wild ride

Dutch amusement park whips system into shape after data overload crashes installation

By Randy Weston KAATSHEIJYEL THE NETHERLANDS

INSTALLING SAP AG'S R/L CAN be a roller coaster of a ride

Fortunately for the employees at De Efteling BV amusement park in eastern Holland, roller coasters are their So business.

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do it. taxa is the enabline technology. Think of all the people who are experiencing Mars Java applet, page 54

IBM brews Java tools

eral availability of Visual-Age for lava and a come tool kit, VisualAge WebRanner. The firm also pre technology called Bean Dio ng, which can add fo

and other tools to help novices build simple JavaReans

The Bean Dipping technol-y would let developers add elity such as lice ing, security and note ment capal

IDG News Service

SAP R/3 installation

Project leader tipelaar blamed much of the early R/3 struggles on a lack of testing and the fact that there wasn't enough emory to handle the volume of data loaded into the system. "There was much

ore data than we thought there would be," be said. be." be said.

De Effeling staffers thought 16G bytes
of extended memory on their Sun Microsystems, Inc. SPARC application server
would be enough to handle the load. It
lasted two weeks. "We are adding 1G

byte each month," lipelaar said. So the park's R/3 project team ched the "Tussenspint" program, Dutch for "in between run." a sort of in-

the \$65 million per year generated by flight repair job. Originally estimated at about \$2 million, the project's cost shot up to about \$4 million

We did training of the staff to make sure no rubbish was going into the system," Ijpelaar said. The Tussenspint also

involved going through the data, tossing the bad and rearranging the good so the data was uniform throughout the system and could be used by operations analysts. As of this year's opening day, all was

Barry Wilderman, an analyst at Meta Group, Inc. in Stamford, Conn., said De ng's experience demonstrates that such problems can be costly and can set ects back significantly. He said the key to avoiding such setbacks is testing.

was finding the Web site with the Java

"There's no rocket science here, but the key is to get the appropriate data and to simulate, simulate, simulate this stuff in a lab environment." Wilderman said You have to work hard to understand

what your transaction solumes are The new system gives end users such as facilities manager Rob Papavoine more information than the legacy main frame system - an IBM System/54 and System/16 that run 10 different applications with 60 interfaces.

But Papayoine said the new ability to ana-

lyze data and better plan inventory from staple items such as cotton candy tubes and cleaning fluid - didn't come without a price, namely time

"To order one simple item (on the mainframe], within a minute we could have an order put out," Papavoine said "Now, it takes five or six minutes, be-

cause we have more sophisticated data and we have to have a lot more input. It was disappointing in the beginning, but it's getting faster and faster as we get

used to it." Paparoine also said knowing why they are pouring in more data - specifically to get better output - makes it worthwhile. With the old system, for example, managers had no idea what was in stock

at any given time.
"We didn't have official stock, but we had a lot of stock," Papavoine said. "We are already seeing a great advantage with the forecasting ability of R/s. But the information is only as good as the data put in. That's what we learned the first year." Now. De Efteline staffers know exacth that they have on the shelves and what needs to be ordered. The result: Inven-

tory has been cut in half. [] Eric Versseij, news editor at Infoworld Netherlands, contributed to this story.

Java applet allows views of Mars CONTINUED FROM PAGE ST

me of lava."

Jim Ryan, a professor and astrophysi cist at the University of New Hampshire in Durham, N.H., said viewing Mars photos over the Internet gives him and the public an amazing advantage over

"Back in 1969, we were all watching the lunar landing, and if you weren't right there at your TV at the right time. you missed it," Ryan said. "Now, I can log on to the Internet site a day later, or a week later, and I can still see what Ryan said the only difficulty be had

link from the official NASA page. He said be could link up only after be was given the site address. Backes said clarifying the directions to the site is the only problem that needs to be fixed at this point.

uled for a oot

The applet doesn't control anything on the actual mission, but only enables peo ple to view the photos over the Internet. ckee noted The Pathfinder mission is actually a trial run for another Mars mission sched-

Because this mission is only expe to last about a week or two, most of the scientists involved can work out of the Pasadena laboratore But the mission sched-

applet. He said it was tough to find the uled for agos is expected to last about a year, so scientists will need to access information over the Internet so they can work from their home offices "We went with lava be-

cause it's so easily deployed over the Internet." Backet said. "Before, when we needed to have remote sci

all those machines. Because Java is platform-indeper Backes said he doesn't have to worry about what platform his scientists are

using "We're going to spend a fraction of what was spent before. That way, there's no limit to the number of users we can have. Heather Ashton, a research analyst at Hurwitz Group, Inc. in Newton Mass., said the NASA es periment is a good exa of putting Java to real busi

entists access photos, we'd "To be able to go up and have to send them all computers so we grab the same information off the Inter-



er a th or A.C. Mielson

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TEXTWARE SOLUTIONS has anne Instant Text 2.0, a text abbreviation software system

According to the Burlington, Mass. company, Version 2.0 was designed for casual users of word process programs such as Microsoft Corp.'s Word or Lotus Development Corp.'s WordPro. Using a word or a phrase advisory, a typist can enter a few letters that are automatically expanded to whole words and complete phrases. Instant Text a.o costs \$99.

(617) 272-3200

FORMATION ELECTRONICS, INC. has an-nunced Eureka Gold, software that has artificial intelligence to determ whether electronic mail sent to a location is junk mail.

According to the St. Simons Island, Ga., company, Eureka Gold with Anti-Soum installs on E-mail servers. It was designed for high-volume instal-

lations, but company officials priced it for small enterprises. Anti-Spom defi nation updates are available for free. Eureta Gold costs \$1,000. Infernation Electronics (912) 638-1893

OFTIOT TECHNOLOGIES, INC., bus an nounced Live Access, software that ing and imaging to increase informa tion retrieval at According to the Mon

ny, users can link and access documents that reside anywhere in their computing environment, including the Internet. Using features called Live Guide and Live Space, use eate a custom hierarchy and link documents to drawings, maps and

Live Access costs \$195. Softkit Tachnologies

Servers & PCs

Large Systems | Workst

By Tim Owellette

BACKING UP IS hard to do At First Union National Ba that means remine in data from an ever-growing herd of distrib-

We don't really know which project is going to hit us next or with what [server platform]," said Robert Gardner, a systems neer at the Charlotte, N.C.,

SECURITY COMPR Like many companies across ti country, First Union found that

a rollout of distributed Unix servers can bring freedom from the mainframe but also can sacrifice the security and access to crucial data that the mainframe

When the Unix servers were first introduced in early 1995, npany officials didn't think her needed a comprehensive backup plan because they expected to install only about 30

Sequent

By Jaikumar Vijayan

ervers in two years But now, less than two years

NUMA boxes

USEAS LUAND by the scalability

Briefs First Union stays on top of growing data load



From left: Steve Plats, Robert Gard

roughout the country. The al was more flexibility so First

into the project, Gardner and his staff manage and back up 2.5T bytes of data from more than 200 IBM AIX, Sun Mi Hewlett-Packard Co. HP-UX servers - with the prospect of 100 Windows NT servers going

online in the next year.

rocessor server can be arnged into a cluster of four des with four processor firms up its

The technique allows vendors to extend server scalability beand the limits imposed by syn metrical multiprocessing (SMP) architectures. Although unost SMP servers stop scaling effectively after 16 processors, Se-quent's NUMA servers now

ADDING MUSCLE

handle up to 3a Intel Corp. pro-cessors and eventually will scale

ves users a way to increase the

promise of Non-Uniform Memory Access (NUMA) architectures but wary of its relative newness in commercial envints may find some reasnurance in a recent announce-

ment from Sequent Computer The Betverton, Ore., vendor is adding features that give its NUMA servers, which first

started shipping seven months ago, greater reliability, increased memory and more storage

up to 252 proces NUMA technology is a per-By bringing high-availability clustering to NUMA, Sequent formance-enhancing way of tying together small groups of processors into one large cluster of processors. For example, a 16-

Union's 12 million customers

Something had to be done becould gain earier access to their cause the move to distrib servers was part of a push to So the bank turned to a softake the bank's computer net-ork more amenable to the 2,000 branch offices spread

ware package from Cincinnas based SCH Technologies, In The package scales up to han the influx of new systems and acts as a basis for other add-on

GM tests wearable systems

Automaker hopes to nix return visits for fixes By Bob Wellace GENERAL MOTORS CORP. BEST month will begin testing a por-

table, voice-controlled, mult dia computer that it hopes will more vehicles on the first visit. The hands-free Mentis system includes a small come that can attach to a person's belt and a headset through which technicians talk to the computer and view the data it pro (see illustration). Mentis was designed to be a train-yourself system that uses aimple men and forward and back options to guide users through the infor-

It's estimated that only 70% of civilian and military vehicles are fixed correctly the first time ound," said Jim Rouch, head of service technology research at GM in Detroit. "The rest are fixed with too many parts or ed a return visit. Thirty percent is a big target to shoot at.



The Mehtis system is m by Interactive Solutions, Inc. in arasota, Fla., and was int duced last week. Although GM will be the first Mentis beta site. an aircraft maker and the U.S. Army National Guard, amor

A lot of

Bank stays on top of growing data load

tools to do specific tasks for specific Called ReelBackup and ReelLibrarian,

the software products let individual systems administrators send their crucial data to four tape drives in First Union's tape silo from Storage Technology Corp. in Louisville, Colo. The tape silo, located in the bank's Charlotte data center, also bouses data from the mainframe. but ReelBackup can discern which drives are

slated for client/server informat have a shell idoing backup, and then you have the capability to build additional tools around it to help you do specific things," Gardner said.

For example, database administrator Steve Plair is integrating Autosys sched uling software from Platinum Technology, Inc. in Oakbrook Terrace, Ill., with the Reeis products to monitor database and file-system backups and provide no tification when backups are complete.

An important part of the up-front work for the client/server backup project was educating users on the importance of backing up their distributed data, then configuring the databases for proper backup with Reels, Gardner said He estimated that client/server back-

Toshiba takes foray into Pentium II arena

By April Jacobs

TOSHIBA AMERICA Information Systerns. Inc. is jumping into the Pentium II market with a pricey, well-equipped commercial desktop

The Irvine, Calif., computer maker's, Equium 6260M is a high-end minitower configuration that features a 266-MHz Pentium II processor, 12M bytes of RAM, a 16-speed CD-ROM drive and support for Universal Serial Bus technology and three-dimensional graphics. It

The computer is available now. It ships with Intel Corp.'s LANDesk Client Manager systems management software and Secure Sleep technology from Toshiba. Secure Sleep lets network managers access a system remotely - even when the system is turned off - by using an encrypted password to install or upgrade software on a client. []

ups now chew through 750 tape cartridges each weekend. But that's no prob-

lem for a product that targets high-end ReelBackup "is particularly well-suited

for backup of very large file systems such as multihundred gigabyte databases that need online, hot backup," said a recent report by Strategic Research Corp. in Santa Barbara Calif

In fact, Gardner said the software is holding up well, but the tape hardware will need to be updated to hardle the ever-growing load. The onus of managing so many different platforms rears its ugh head here, too, because tape hardware requires software drivers for each platform.

SCH is developing Reel add-ons aimed at backing up Oracle Corp., Informix Corp. and Sybase, Inc. databases and SAP AG's R/3 enterprise applications-

totally expandable,

infinitely scalable, completely compatible,

easily manageable, and entirely mobile.



others, have expressed interest in the on provided from Mentis can include full-motion video, CD-quality audio, three-dimensional animation, graphics and text. The technician dons

es information by using voice com-mands, which leaves his hands free to work on the car.

If the technician needs additional data he can access local databases by using a

lentis "is a great protis soon will have a satellite uplink for use overlong distances. "The amount of infor-ation needed to fix mo-

vehicles is over whelming," said Roach, who added that GM sub

the advanced technology used in today's cars and tanks.

For example, a low-end Cavalier has four microprocessors, but a loaded Cor-vette has 12 processors used to run the car's instrument panel, air-bog, engine and transmission. Roach said: "You need to have very high-technology systems to repair very high-technology systems." Disna Hwang, an analyst at Interpia-

tional Data Corp. (IDC) in Framingham doma tota Copy (IDC) in Prammpsam, Mass., said wearable computers are still an emerging market, but Mentis "is a great productivity tool for many vertical industries." Mentis appears to be the first such system to offer multimedia support.

un-based Mentis is abo in thick and measures 7.5 in by 5.5 in., which is about half the size of a laptop. It can be equipped with a flat-panel display and mounting gear. System prices range from about \$1,600 to \$8,000.[]

Sequent firms up **NUMA** servers

CONTINUED FROM PAGE 55

observers said. The company has introduced a fiber-channel-based interconnect technology that lets users link two NUMA servers in a high-availability cluster. In that setup, if one server goes down, the other automatically takes over

The servers can be spaced as much as to km from one another, thereby providing users with disaster-tolerance and recovery capabilities, analysts said. "It is good knowing that this kind of [high-availability] capability exists," said

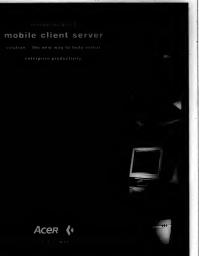
Ron Hawkins, director of technology at Millipore Corp. in Bedford, Mass. "But instant fail-over is not something I need right now in our business enviro ment," be said. Millipore, which uses a Sequent NUMA server to run database

applications, takes it down every Sunday for regular maintenance, he said.

In addition, Sequent also announced support for up to 16G bytes of Very Large Memory support on its NUMA servers. That kind of memory capacity lets corpo rations run large applications - such as entire databases - directly on memory, thereby boosting performance. Gary Smaby, CEO of Smaby Group.

Inc. in Minneapolis, said Sequent's moves to build up on a highly scalable computer architecture are imperative.

"Because Sequent is a small company competing with giants in the server space, they need to aggressively push the performance envelope," Smally said. D





THINK Inside

Manage the money! To lower total conversity costs of your information systems, manage those costs better, Pari

Managing

CASHING in Sproblem and need some outside help. But be on quartil Some vendors are pushing magic fixes and overpriced help. YEAR 2000



HE SYTCH WAS too good to be true.

At a year 2000 conference in
December, Philip Murphy was approached by a disclading salesman who chiapsed his compensy
could convert any program at the
National Council on Compensation
Instrusance, Inc. (NCC) in Boos

Raton, Fla., for \$100.

"It didn't matter whether the applications contained 5,000 lines of code or 300,000," said Murphy, manager of year 2000 compliance at NCCI, which provides workers' compensation statistics to insurance companies. "It rounded like a backyard operation run by Bubba and his three bendires."

Year acoo speaker and consultant Peter de Jager remembers a conversation with a vendor representative who sought a PROBERT L CYMITED

Note: The conversation of the co

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Wickonn to the claray tide of the year 2000 industry cashing in on what zone bope will be a \$600 killion market enauring that information systems can recognize the year 2000 although they were written to recognize only two-digit year fields. Many honest weeked are design good work, but there are some employment agencies changing yife control of the properties of the properties of the production of the properties of the properties of producting its first manager to pirth manager curses and offshore vendors budding for work even though they have no stiff to handle it.

Cashing in, page 60

CASHING YEAR 2000



Even reputable firms are raising eyebrows. One industry group sells year 2000 "certification" that doesn't guarantee anything will actually work. Insurers sell year 2000 policies that require costly audits and only cover companies that are well along in solving the problem. One chief information officer claims vendors use "terror tactics" to scare nontechnical

CEOs into spending more than they books and services to libraries.

Sleazy vendors

One project manager at a financial services firm says the year 2000 is "magic" for contract programming agencies. "As soon as I make the magic word happen," he says with a chuckle, "they want a 35% markup. We formed a tight alliance with our (human resources) department" to catch contracting agencies that previously offered the same

programmers at lower prices for other Lauris Nance, vice president and year 2000 project executive at business infor mation services company Equifax, Inc. in Atlanta, says she's never seen as many cold calls as she receives for year 2000

Year adoo Project Manager Jo Calk has learned to brush off claims of automa tools that will dramatically speed code conversion at Blackwell North America, sc. in Lake Oswego, Ore. The firm sells "A lot of the changes ... cannot be

done globally through all their magic programs," Calk says. "It's down and duty plugging through the code." Strohanie T. Moner, an analyst at Gura

Information Group in Westport, Conn., sava she's turned up "hundreds of sleazy sendors" with big claims and shady back-

A year aooo project manager at an East Coast manufacturing firm got a proposal from an Indian firm that said, Currently, we have no employees, but I can get all of my family members together to do this project." It didn't get the contract

TIPS: Be wary of claims that automated com-sies software is 99% or 100% accurate.

program or 50 costs per line of code. Ask

ore says. A 65% success rate is more ware low-ball pricing, such as \$100 per

Silver bullet? You decide

er bullet." It also claims SBS can exp

ich, president of the Tactical Strategy Group, Inc., Ith the high profile of year 2000 problems, he

legical, Calif., Controlling from all this time?

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"A world Wide Wale search for Footh's co-portion, John Diffetts, found that name

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"d as holder of SEO's pant office her. — where was a Matchestine public access

oso messago said: "This is Jel

If such prices include software licensing, sandon or other feet

Pushy vendors Need some year 2000 work done? Then make it worth my while,"

That's the attitude many big service providers take with clients. Vendoes tell customers, "If you only want to give me war 2000 work, that's not be enough. says Patrick McBride, vice president and service director at Meta Grown, Inc., a market research firm in Stamford, Conn. Vendors are pressuring customers to also buy long term maintenance or data cen-

"We have never tried to hold [customers! hostage for our year 2000 services by requiring them to buy something else. says Dale Vecchio, marketing director at Viscoft Inc.

ter outsourcing, he says.

Brian Keane, a sensor vice president at Keane, Inc., an applications development, outsourcing and integration services firm in Boston, savs it hasn't himed down work or pressured clients to buy extra services. But he says, "We would always give higher priority to a customer who combined the year 2000 project with an application outsourcing deal."

TIPS: Know which of your systems must be fixed and when, to help you pash back against von-

- Prepare a list of systems or functions you

Want insurance?

Want to insure yourself against year 2000 losses? Try this plan from insurance broker I&H Marsh & McClennar Inc. in New York, with auditing services from year 2000 tool vendor Ascent Logic. Inc. in San lose, Calif., and the New York law firm LeBoeuf, Lamb, Greene & Marke

First, don't apply unless you have a well-established year 2000 plan written. says Ascent Logic President and CEO

Larry McArthur Second, the standard policy won't cover damage caused by microproces within devices such as elevators or firecontrol systems, says Jeff Jinnett, president of a joint venture formed by Ascent Logic and the law firm to perform the audits. Nor will it cover failures in a customer's or supplier's system, he says, unless that third party also undergoes a year 2000 audit.

Third, the customer must pass a series of audits - which can cost upward of \$100,000 - of its year 2000 compliance. Finally, the customer pays about \$35,000 for each major business unit to license software from Ascent Logic to generate audit data, McArthur says

The policy remains in effect only as long as the customer passes quarterly audits, which cost \$30,000 each. The policies, none of which has yet been issued, will cover up to \$200 million in damages. Premiums are expected to cost several million dollars.

IS managers were skeptical of the insurance at a recent meeting of The Information Management Forum, an association of business and IS executives in Atlanta, save Managing Director film

The coverage limit is "a fraction of a day's run rate" for a large, multinational company. Jones says. And some executives considered it self-insurance "and they were self-insured for most things Marsh & McClennan officials didn't re-

turn several calls seeking comment. McArthur says the policies are probably most attractive to chief financial officers, spurred on by comorate lawyers and audit committees that fear lawsuits.

TIPS:

- Does the policy cover third-party d or damages caused by embedded systems?

Mow does the insurer determine if you're eligible for coverage?

· Now much will you pay for audits, requ software licenses or other associated costs?

Weak guarantees One reason to buy year 2000 in

is to prove to customers, shareholders and [if necessary] lawyers that you have a good year 2000 plan.

Hence the rise of certification proas, such as those run by the Informa tion Technology Association of America (ITAA) in Arlington, Va. So far, about 30 nies have applied for and received the \$6,200 certifications, which will rise to \$8,200 on Aug. I, says ITAA spokes man Bob Cohe

But, as Cohen admits, the ITAA em't guarantee software written by or fixed by an ITAA-certified company will work in the year 2000. All it certifies is the process by which that company does

Jones doesn't think the ITAA is doing anything wrong, but he says he's seen press coverage saying "that so and so products are certified by ITAA. That's

clearly erroneous." But one IS organization found ITAA certification enough to calm nervous cus-tomers. The audit "was also a very nice way to validate our own process," says Dan Lucas, systems development man er at Blackwell North America, Inc.

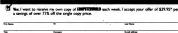
TIPS: pensive than buying insurance, if your main real is to prove you're working on your year

Get legal advice on how much protection certification actually lays yee.
 If a wonder claims it or its preduct is "cortified," ask exactly what is being certified.

and how the auditor defines "compliance." Scheier is Computerworld's senior editor.

management; Hofiman is senior editor, IS

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Offshore programmers: Low cost for long?

es for Can



Memo to staff: Drop what you're dolna

Many IS managers worry that they'll have to postpone criti-cal application development so they can devote money and people to their year 2000 problems. That's already hapning at Bernard C. Harris shing, Inc., a Norfolk. Va., publisher of alumni

The company has decided to call "all hands on deck" to quickly analyze the extent of its year 2000 problem, says

project manager Janet Burns. "We could [have] put five people on it for five months or 20 people on it for two months." she says. Management opted for speed because the compa-ny still runs many older sys-

tems thought to be prone to year 2000 wors, and it isn't sure it can replace them by the end of 1999. "If those projects didn't get going or weren't going to fin-ish by 1999, we needed to fig-ure out what we had to do

now," Burns says. The year acco speedup has pul virtual-ly all new development on final phase of a chent/s system designed to improve

Why this urgency when the company hasn't found any actual year 2000 bugs? Because "we definitely feel that if you don't address this, you're betting your business," Burn says. And if the year 2000 problems aren't too had, work on the customer service system could resume by next month. - Robert L Scheier

Showing, not telling, makes case

Having trouble delivering the year 2000 message to executives? Don't just talk about the problem - show them. At Wheeling Pittsburgh Steel Corp. in Wheeling, W. Va., upper-level executives had to be convinced that the year 2000 would have a big

Early last year, they got the message - and Wheeling, well into the conversion process, expects all its systems to be year 2000-compliant by the end of next year.

The vice president of information systems, Tom Notaro, wanted to see "real-life" ex-

amples of how systems would be affected, says Dan Busack, director of software development at Wheeling. Using Cobol Analyst 2000, by Aug. 1, Kappelman says

an impact-analysis tool from SEEC, Inc. in Pittsburgh, IS set up several demonstration of how the company could be affected. When one demo showed the potential impact on shipping, Busack said, ex-ecutives took notice. The purchating system demo re-vealed that the company wouldn't be able to order parts

wouldn't process those requirements." That, he adds, helped convince Notaro and line executives that they were facing a problem. - Rick Sain

Lessons from Leon

Looking for some ideas in implementing a year 2000 conversion plan? Leon Kappel man may have some for you in his new book: Year 2000 Problem: Strategies and Solu-

tions from the Fortune 200, or The YaK Dragonslayer's Manual essor of busicomputer tems at the University of North Texas and cochairman of the Society for Infor-

tion Manage ment's (SIM) In ternational Year 2000 Working Group, has combined the works of more consultants and IS professionals to offer strategies, was stories, resources and mo

on the year 2000-convers The book, published by In-ternational Thomson Computer Press (unwrite)media com), is due on store shelves





PAUL STRASSMANN

TO LOWER OWNER-SHIP COSTS. MANAGE THEM BETTER

re you worried about total ownership costs? Don't place your faith only on changing technology.

Replacing old PCs with network computers or switching operating

ms is not the miraculous answer to ising costs of computer networks.

ty and security and become a sumanager of the technology you Until recenity, we rarely heard much about the excessive cost of PCs, even

though it can amount to as much as 40% of the salaries paid to PC users. Comput er people kept quiet because they were preoccupied with obtaining money to buy hardware and software. Too managers only began to inquire about the full life-cycle cost of computing when they

recognized that computer ownership inreasingly includes costs that show up only in the users' operations. Today, user-incurred costs such as futzing" (wasting time on PCs), impro-

vised learning, assistance from fellow employees and end-user attempts to become computer experts are showing up in the total ownership cost (TOC) esti mates published by consultants and

DOWNTIME ESTIMATE Still, something is missing, I have been

bothered by the lack of any allowances in TOC calculations for the business cor essences of network downtime ICW. Ian 13). Vendor claims and widely quoted altant estimates don't include that. Yet, I have data that suggests that many networked PC users can't perform their ential business tasks for anywhere from two to four hours per month. Frequently, those disruptions can lower pro-

activity and burt revenue. In business-critical applications, com uter downtime equals the costs of idle box. I recently completed a study of a network with a 500 clients. So servers. 50 bridge/routers, 200 hubs and 160

The unplanned downtime for the clients was 1.6 hours per month per per son. Throw in the interruptions caus by the servers, muters and hubs, and st added up to a.8 hours. For the entire network, that was 84,000 hours of disfunctional time per year. With user compensation averaging \$32,000 per year, plus benefits, that could add up to a big waste of resources

TOTAL COST OF OWNERSHIP M In revenue-creating applications, the losses from computer downtime can be even greater. According to a model from Interpose Corp., revenue losses per ovee can equal several times an employee's hourly compensation for

Interpose in Altamonte Springs, Fla., (was winterpose.com) offers the most comprehensive software for estimating total ownership costs, including expenses that don't show up in the information technology budget. In addition to calculating hardware and software component costs, it also includes allowances for the following other IT expenses:

Network management (such as trouble shooting and repair, performance tuning and user administration? · Systems management (such as technol-

ogy evaluation, licensing, asset ma ment, network security and installation of upgrades) Storage management (such as storage

capacity planning, backup and archiving, and disaster planning). · User support (such as training, ven

liaison, equipment relocation, trouble nosis and help desk operations). The model also includes losses in pro ductivity attributable to end users as a cost of ownership, such as the following: · Lost productivity and lost revenue from downtime. (The model estimates these losses from user-supplied data on such

factors as salary, what portion of the person's time is critical, planned downtime, unplanned downtime, what portion of the population is affected and how mission-critical those people are.)

Time spent in formal mosth training. Cooperative training. when the user's peer interrupts work and offers tutoring

·Casual training, such as learning fr trial and error or by perusing a manu The cost of correcting errors resulting rom the inability to operate the system. The "furz factor" - the costs of users spending work hours using their PCs for entertainment and private purposes

THE DOWNTIME EFFECT

I ran the Interpose model for the netv under study to calculate the average cost per client station, including all the standard cost elements listed above. The effects calculated by the model

were remarkable: Fully 48% of the \$12,516 average cost per client could be attributed to the revenue lost by downtime. Other end-user ineffi would account for only 12% of the TOC. Futzing amounts to only a.9% of the TOC

Those results intropued me. The key

influences on TOC weren't the stan cost elements, but network reliability I wanted to assess the value of the work that wasn't done because of down

To estimate that value, I related it to the salary: the higher a user's salary, the higher the potential impact on revenue oss. That way, I assumed that the higher the compensation, the more likely is that rson's effect on business outcomes ary also will be a measure of lost productivity in case that person can't func tion because the essential computer sup

I also examined the total ownership osts for the identical network, assuming it supported highly paid users (earning \$00,000 a year)

The losses due to downtime were even righer. For highly paid analysts, using w-reliability networked PCs (who downtime was 1.2 hours per month), the average cost per client was \$29,100. In this example, the costs of hardware and ware would amount only to 8% of TOC! If these analysts were curren traders, and totally dependent on work station uptime to conduct business, the TOC would be much higher and the importance of hardware and software touch

CIO IMPLICATIONS

Making technical choices about operating systems (OSa vs. Unix vs. NT vs. Windows 95), hardware (PC, NC or NetPC) or various administrative schema (such as the Zero Administration Cost tive) does not predetermine the fi nancial impacts on organi PC users can't

It's not technology, but management effecti that drives the total cost to an enterprise of using net worked computers. Man agement can exercise the greatest influence on how an organization over comes the revenue impact when networks fail to

function. Only management can deliver reliability and responsiveness to custom er needs. Identical servers suppo identical clients, using identical router hubs and printers, will show widely diff ferent TOCs depending on who uses them, the importance of the computers. how critical the applications are and the ability of the networked services.

Top management is starting to ask tions about why overhead costs are p despite the introduction of supposed ly inexpensive computer networks. This ne around, it will not be prudent to offer yet another technological fix as the cure to bloated IT budgets and rising overhead costs. (I)

Paul Strammone's (paul@stram com) new book, The Squandered Com puter, singles out excessive total ownership osts as the meet attractive target for imme

diete cost reductions.

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e those FREE features at

- Record work expe Define goals for I

And if you're an I.T. man. Careeragent" button also rate subscription to Care late skill gaps, and searc sion support system to

The point? Every indi



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Buyer's Guide

IS managers want performance and quality, but they're thred of paying high prices for PCs and notobooks

CU

y brother-in-law works for a retail chain whose chaoticlooking stores are filled with clothes and household goods scavenged from other retailers'

overstocks and closeouts. The corporate motto is simple: "Good stuff cheap."

Funny, that's exactly what PC buyers want, too. And they say vendors aren't offering any.

Computerworld's Customer Satisfaction Survey on PCs and notebook computers drew responses from 1,65r corporate sites, and he repondents spoke plainly. High prices stink. Performance, reliability, case of configuration and quality all score fine (PCs keep users somewhat happier than notebooks in those areas), but the industry at large is charging too much. Or at least offering to but fife of these prices that offering to but fife of these prices.

One irony is that for the past two years, wendors have been preaching about how they are reducing the total cost of ownership. That may have been just blather. Users often rated cost of ownership lower than service and support, which buyers historically have slammed in other, Computerwords surveys.

When we asked buyers what they moved water from their vendors, the answer was clear: lower prices. Yet "cheap" isn't good enough. Buyers want "good stuff," too. In the following pages, you will see that vendors such as Hewlett-Packard, Dell and Micron Electronics — which blend good prices with good marks in

areas such as quality and reliability — score well in overall satisfaction. IBM. Toshiba America and Cempaq, which also have good reputations for quality, performance and reliability, get dragged into the middle of the pack — or lower — because of user dissatisfaction with prices. — James M. Connolly, technology evaluations editor

DESKTOP SYSTEMS With prices so low, why the problem?

By Kosin Burden

HEY'RE POWERFUL highly reliable (making vendor support more negligible), there are plenty of yendors to bud for your business, and the cost - well, we can always beef about cost.

Frankly, cost is what users are focusing on these days, according to Computerworld's Customer Satisfaction Survey of 1.651 managers who purchase desktop

score of 4.02 and reliability a mean score of 1.06. That shows users are generally happy with today's PC quality. And with a few exceptions, users are comfortable do-

ing business with their vendors. But snoods changed when users were asked about price. System prices and overall cost of ownership received the lowest overall satisfaction grades of 12 categories, and it would have been worse if not for the relatively high scores for direct vendors such as Dell Computer Corp., Gateway 2000. Inc. and Micron.

Still, it's clear that users feel that most vendors can do better on price. In a market where it's difficult to see the

differences from box to box, price gets the attention. 'And ople don't feel they're getting anything extra by paying higher prices to nondirect vendors like IBM and Compaq (Comput-er Corp.)," says Laurie McCabe, an ana-

lyst at Summit Strategies, Inc., in Boston. System reliability is such that users don't see much value in paying premiums for superior support

But whether they sell direct or through reseller channels, all vendors have managed to maintain pricing levels even though raw power keeps getting less exsive. And that is why users complain

sbout PC prices, Dunkle says. Price per MIPS is dropping, but vendors consis tently add to the systems' subcomponent level to maintain s higher price value. "With memory more storage, bet-

> continue to build up their baseline systems," Dunkle 5275.

More PC for the same me doesn't necessarily seem bad, but consis tently increasing the standard configura-tion is why desktops are fully amortized

in just 2.3 years, according to Dunkle's research. "Users want protection from price erosion," be says. Bruce Broll, information systems su-servisor at Altec Industries, Inc. in St. seph. Mo., says just buying the right

system for the job is the best insulati be's found against depreciation. "We still have some 486s running all the software those people will ever need. Buying top of the line to prolong system life doesn't work for us since it means we're probably buying more system than we need, and

time will eventually catch up," he says. The most obvious strategy is to get the best price you can, which may mean buying direct. But if you're heartant about noving away from vendors you've considered to be business partners, look at the overall satisfaction scores, and see which vendors best satisfy corporate users. They are Dell, Hewlett-Packard Co., Gateway and Micron. Three sell direct - HP doesn't - and can often bid at least 10% below vendors such as IBM

and Compag.

Greg Martin, director of IS at Arnot Op den Medical Center in Elmira, N.Y., who once exclusively bought from Compac because of its reputation for reliabilit says he is less concerned with reliability than in the post. "We haven't seen much of a difference since we started experimenting with Dell and Acer (America Corp.]. My focus now is which wendon

can give me the best price break." As for paying premium prices to get better service, Martin says it's not worth it for him. "We're using vendor service much less, given what peliability is today. That's why it's getting harder for Com-one and IRM to differentiate themselves

to us " he says Support grades show that users don't necessarily sacrifice service by choosing direct-sales vendors. HP's grades are ex-tremely strong, as their history shows. but the next best are Dell's and Gateway's. "This is probably the industry's best-kept secret." Dunkle says, "All our research says the abilities of their techni-

cians to do remote diagnostics is out Desktop systems, page 68

ter monitors, video RAM, etc., PCs won't get cheaper as long as vendors

But users did offer resp

on one money issue: value for the dollar.

The industry as a whole scored a 3.74 rat-

ven the performance of PCs, prices

Electronics, Inc.

Users were asked to rate their satisfaction with their desktop systems and vendors in various categories pertaining to equipment quality, vendor image and cost issues.

ing, so users apparently don't feel they're getting ripped off. That may be because. Overall, users gave decent grades in most categories. For example, on a scale have never been lower, says John Dunkle. of 1 to 4, where 5 is "completely satis- an analyst at Workgroup Strategic Serfied," users gave performance a mean , vices, Inc. in Portsmouth, N.H.

		TEC	HNOL	COSTS			
whites or at every may not sub-	Response base	Performance	Reliability	Configuration	Quality	Service and support	
Acer	32 .	3.97	3.87	3.80	3.74	3.52	
Apple	173	4.04	3.99	4.34	(4.05)	3.70	
- AST	55	3.77	3.85	3.70	(3.81	3.54	
Compaq	598	4.02	3.99	3.75	392	3.61	
Dell	402	4.15	4.08	3.99	4.01	3.77	
Digital	80	3.92	3.89	3.66	3.92	3.58	
Gateway	329	4.07	3.93	3.94	4.00	3.66	
HP	217	4.18	(4.13)	3.94	4.03	(3.83)	
1844	356	3.85	3.90	3.66	3.80	3.62	
Micron	81	4.17	3,97	4.01	4.00	3.60	
Total/mean	2,765	4.02	3.96	3.88	3.94	3.67	



SYSTEMS

higher user satisfaction grades for their own support compared with what is offered through the vendor's channels,

users really aren't giving up much by going direct. "I don't need anyone to show up, just someone on the other end of the line that can take care of me. And that's what I have with Gateway," Broll says. Probably the best evidence that price is

fast becoming everything is a question in the survey that asked which vendor the user would prefer if price wasn't a factor The top two in order: Compaq and IBM.

Although neither scored best in any category, they still would be the favorites if they didn't cost so much. "That makes total sense," Dunkle says. "There is a degree of safety when you buy from these vendors. Safety that comes at a price people like to complain about, but a level of safety people prefer."

Burden is Computerworld's senior researcher, Buyer's Guide.

PC VENDORS AT A GLANCE

THE REST OF THE FIELD

here is another group of PC venders tiered differently in this survey because of their rela-

tively low response bases. Some re on their way up in the market ach as Micron Electronics. Others ey be on their way down or just undering, such as AST Ress Inc. and Acer. And still others survive through a loyal following, inchading Apple and Digital Equipment Corp.

Apple was the only vendor in this second tier with more than 100 cole has always been a different broad: though it never seems to fit in a Windows-based PC comparison, the high satisfaction of its

Apple actually scores among the highest grades of the survey in the technology categories, especially for ease of configuration and quality. But when it comes to cost, Ag

users can't be ignored.

PC users. Micron's reputation for driving

ance at great prices built it a brand equity that people associat ing to John Dunkie, an analyst at forkgroup Strategic Services. "Now that people understand Alcron is available at a feir price, it's been doing very well," he says Micros's origo scores are right in

Acer's overall satisfaction is below the survey mean. But even orse, there is a sizable gap beroom its orice setisfaction, which s among the highest, and its value er-the-deller score. "We call this after-sale satisfaction' and with Acer, it's not good," Dunkle says. AST scored the lowest everall sat-

se with price-conscious Dell, but

ith an edge in performance.

infaction of this small group of von dors and of the total survey. "They have way too many strik et them. It's very unlikely

sava Laurio McCaho, an anah

BUVERS RATE THEIR PC VENDORS

SOTERO MILE HIEM TO TEMPORE									
		C 0 S T							
	Price	Value	Cost of ownership	Vendor reputation	Technical direction	Comfort with vendor	Overall satisfaction		
. Acer	3.80	3.67	3.63	3.73	3.77	3.62	3.69		
Apple	3.37	3.63	3.66	3.85	3.52	3.67	3.73		
AST	3.77	3.70	3.67	3.67	3.60	3.67	3.64		
Compaq	3.40	3.52	3.47	4.13	3.99	3.96	3.82		
. Dell	3.90	3.94	3.84	4.12	4.05	4.04	3.98		
Digital	3.19	3.45	3.36	3.93	3.84	3.79	3.71	_	
Gateway	(4.07)	4.06	3.95	4.03	3.94	3.96	3.93		
HP	3.60	3.81	3.74	4.29	4.13	4.14	3.98	-	
IOM	3.16	3.29	3.28	3.99	3.75	3.73	3.67		
Micron	3.89	3.87	3.78	4.14	4.10	4.03	3.88		
Mana	266	2.74	2.67	400	3.00	3.89	3.84		

Means 3.66 3.74 3.67 4.00 3.89 3.89 3.89 3.84

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Ferraris and diamonds on tuna casserole budgets?

Cathleen Gagne E ALL WANT the best - and there are cerin things for which we expect to pay top dollar. Then there are certain prices that people just can't come to grips with. Take notebook computers: People want portables to do it all, but it

galls them to shell out the bucks. Computerworld cast a mail survey to 4.000 information systems sites and received 1,65t responses. The responses voiced a clear, collective cry from users demanding that vendors cut their costs. And users aren't going to settle for less support and poor quality just to get those cut-rate prices; they expect their note-books to work and that vendors will stand

by their products. DE SATISFACTION

The results show that users overall were most satisfied with Hewlett-Packard Co., Dell Computer Corp. and Micron Electronics. Inc. They were the least pleased with AST Research, Inc., NEC Computer Systems and Compaq Computer Corp. Companies that fell in the middle include Gateway 2000, Inc., Toshiba America Information Systems, Inc.,

Apple Computer, Inc. and IBM. Dell and Micron, both telephone-order vendors, scored the highest in price, value and cost of ownership, and HP scored big on vendor image issues and service

and support. NEC and AST didn't fare well in any category. Company scored less than ever. So complaining users don't appear to get a lot of sympathy. steadily in many categories but sank in price, value, hardware quality and rela

ability Analysts acknowledge that part of the user dissatisfaction may simply be that

than desktop machines that offer the same performance "Considering that we're paying about twice what we could pay for a desktop. this is frustrating," says Jon Penot, 1171S manager at Health Plan Southeast in

Tallahassee, Fla.

NOTEROOK VENDORS AT

Jose, Calif.

Analysts also say notebooks today cost

"I don't know what users are expect-

ing. I would say notebook (prices) are at an all-time low for what you get," says

Ken Dulaney, vice president of mobile

computing at Gartner Group, Inc. in San

Prices may not come down for a while,

either, analysts project. "For vendors to

drop the price, it's really a big peoblem

because there are more things that have

to go into the notebook," says Rob En-

derle, area director at Giga Information

gory, except

Group in San Jose. For example, the desktop machine is sold without a display, and it is integrated with the note book. "You can get pretty sloppy with the implementation of the desktop system. and it'll still look and work all right. With a notebook, if you get sloppy, you've got heat problems and service problems, and

it all goes back into cost," he says. When we tried to pun down several sur vey participants on exactly what bothered them about notebook price and value. they registered vague responses or drift ed in other directions to plead for better support or quality assurance from vendors. It appeared that the problem may not he the price, but what you get for that

For example, Carin Barbanel, a senso desktop publisher at Ambac Indemnits Corp. in New York, says the price of her many's Compaq machines would be worth it if the vendor would "give us in surance that the case will not crack and replace it for a year or two years if it does and offer user manuals." She also found Compaq to be inflexible when it

came down to negotiation. "I would have expected them to throw in more service," she says.

HEED FEAD

Although the survey shouts of user up happiness with price, users also are afraid of getting burned by buying lessexpensive machines

"You definitely get what you pay for." says Penot of lower-priced notebook Health Plan Southeast buys from Gateway primarily because of its competitive prices, he says. But he acknowledges that this short-term tack has backfired on him in the long haul. "When we've called because a battery pack has completely died and won't recharge, Gateway's answer is typically. We don't make these anymore

THEIR NOTEBOOK VENDORS

	Response base	Performance	Reliability	Ruggedness	Screen	Hardware quality	Service and suppor
. Apple	130	3.79	3.84	3.84	3.84	3.85	3,67
. AST	70	3.53	3.33	3.36	3.47	3.44	3.25
Compaq	369	3.77	3.71	3.64	3.69	3.69	3.58
Dell	261	4.03	397	3.97	3.96	3.92	3.81
Gatemay	125	3.82	3.74	3.68	3.77	3.71	3.65
HP	52	4.02	3.90	3.83	4.00	4.00	3.96
1914	428	3.83	3.82	3.72	3.86	3.78	3.65
Micron	43	4.17	3.95	4.00	4.17	4.08	3.72
MEC	86	3.73	3.66	3.62	3.88	3.65	3.49
Toshiba	485	3.88	3.77	3.73	3.87	3.81	3.48
Total/mean	2.256	3.84	3.76	3.7	3.82	3.77	3.59

You have to buy a whole new computer." He says this translates into a value issue because "they aren't supporting what they originally sold you.

Penot says has company also uses IBM notebooks, which he prefers over the Gateway line. But he has a major gripe with IBM on price. "We're spending about \$4,000 per laptop but can get the same thing from Dell or Gateway for \$2,900. But IBM's trade-off is better sup-

port," he says Penot says he's now fighting for more IBMs, using the argument that "we can throw away a machine after six months if it breaks or we can pay more and get repair service/support with IBM. In the

lone run, IBM is a better value." But based on the survey numbers Penot may be in a minority. The scores from IBM's 428 users placed it last in price, value and cost of ownership cate-

IRM users are clearly unhappy with the price. Conversely, when our survey asked all the respondents, "If price weren't a factor, what vendor would you choose?" they put IBM in the top spot.

"Does everyone want notebooks to cost \$500? Sure," Dulaney says. He also notes that people tend to purchase more than they need in a notebook

He says IS departments may be buying high end machines so everyone can get every possible feature and to hedge against being left behind on future enhancements. "But in fact, those machines are not going to pay out the way IS thinks they are. High-end machines have things like MPEG, which is still undefined and has not been useful, and zoom video and other technologies that I consider immature," Dulancy says.

He suggests IS managers reexamine their clients' usage patterns and tailor their machines more closely to what they really need to save money.

Gagne is Computerworld's senior editor, Super's Guide.

OTHER SURVEY HIGHLIGHTS

SERVICE AND SUPPORT Given that Howlett-Packard, Dell and Micron placed highest in ove ser patisfaction, it's on surprise hey grabbed the highest mirks in vice and support. The three also

ed first in overall satisfaction, so ms fitting that they would sup port their customers well. But take note that three out of the

four vendors that ranked highest in verall customer satisfaction are ne-order venders --- Dell,

ron and Galaway. One analyst nics there's a connection.

"Why they're doing well has to do omer support," according to Ken Dulaney, vice president of bile computing at Gartner-Gre Dall, Micron and Gateway's motto is to sell direct, so they don't have as ch overhead and can put inuch e into customer service, he says.

Placing middle to last in service and support are AST, Techibe, NEC, pag and IBM. ney says users may be indi-

ating less satisfaction with se rendors because they're dealing igh resultors, which can cle he perception of a vendor.

of the third parties," Do ability, which has a large m

are the largest in marketshare . . . they had severe shortages in parts,

director at Gigs Info TECHNOLOGY

Micron, HP and Dall again por ton scores in areas of parts hardware quality, reliability and son quality. Apple kno out of third place for nd system compatil Micron and Dell took fi

reen has always per Stawlessly in terms of product in my merianco," Endurio says. Falling in the last two spots in al neet every technology category were AST and NEC, which also had

tively few responses. Comp and Gateway scored poorly, just sheed of AST and NEC throughou

art of Cortage," Dale re've tracked problems in over Alter and overall rolls

VENDOR IMAGE nical di-

AST, NEC and Apple IEC has a oper

n," Enderle says. "Their I re talking about a vendor that h er really been able to co re. They have just not done a gr fort level." ...

on the Mac," says M McGuire, senior on

And just take a guess who so art in all the vendor image cate les. Yep, you got it: HP, N ed Dell, the compo est the entire surve

- Cathleen Gagy

BUYERS RATE THEIR NOTEBOOK VENDORS

	c	OST		MAG			
	Price	Value	Cost of ownership	Vendor reputation	Technical direction	Comfort	Overall satisfaction
Apple	3.07	3.30	3.40	3.83	3,61	3.61	3.72
AST	3.42	3,44	3.34	3.36	3.28	3.33	3.32
Compan	3.27	3.35	3.35	3.99	3.88	3.84	3.66
Deli	3,66	(3.75)	(3.73)	4.10	4.03	4.00	3.95
Gataway	(3.75)	3.69	3.65	3.89	3.90	3.87	3.77
HP	3.67	3.73	3,70	(4.27)	4.08	(4.1)	3.96
184	2.94	3.17	3.17	4.00	3.88	3.81	3.69
Micres	3.62	3.73	3.71	4.05	(4.11)	4.03	3.92
NEC	3.31	3.35	3.31	3.81	3.57	3.69	3.49
Toshiba	3.47	3.53	3.48	3.94	3.84	3.60	3.73
Mean	3.36	3.45	3.43	3.92	3.82	3.78	3.70

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BY STEVE ULFELDER



t avoo a.m. on the day after Thanksgiving 1995, Ed Goldgehn of Marietta, Ga., went out to his driveway just in time to watch his Ford Ranger pickup burn to a twist-ed shell.

In the weeks that followed, Goldgehn and his wife, bra, came to believe they'd been misled by Ford Motor Co. about the safety of the Ranger's ignition switch, espe scially when the com

the safety of the Ranger's signition switch, especially when the com-puny recalled Canadian vehicles after similar fires. The Goldgehns ddn't get mad. They got a Web site. It's usus/famingforts.com, and a lot of people say is spurred a recall of 87 million crass and trucks in the U.S. that will cost Ford Saco million to \$500 million, according to dealership figures.

Pundits say the beauty of the Internet is that anyone can be an instant publisher. The downside is that anyone can run a smear campaign full of libelous information that reaches millions of people in seconds. There are no editors or safeguards to ensure that 'not in formation is fair and factual.

The misinformation, disinformation and rumors posted daily on Internet Usenet groups and World Wide Web pages cost corpora-tions money. A company can spend millions of dollars trying to repair its reputation in court, for example. Everywhere you look in cyberspace, disgruntled consumers, interest groups and competitors are bad-mouthing some company. Sears, Roebuck and Co., General Electric Co., AT&T Corp., MCI Communications Corp., Kmart Corp. and Wal-Mart Stores, Inc. have all been hit. Com panies that fail to monitor Internet traffic may be headed for a public relations disaster (see story, page 77)

Internet misinformation takes many forms: reckless Usenet flames rogue Web sites and parodies, outright fraud and, of course, urban legends, the rumors that refuse to die. Urban legends easted long before the Internet, as anybody who ever sat around a campfire bull session can attest. But there are tens of millions of geople around this particular fire, and too many of them are as gullible as a kid at camp. Tommy Hilfiger Corp. was burned recently. The publicly traded

clothing manufacturer, which reported \$66a million in revenue for fiscal 1997, was the victim of an Internet fable that spread like wild fire. The way the rumor went, designer Hilliger appeared on The Oprofe Winfrey Show and made racist comments about several groups. which he was tossed off the set by Winfrey. (As all urban legends do, this one mutated; as it circled the globe, Hilliger's comments were alleged to have been made on several other television shows.) The rumor dates to at least late last year, but once it hit Usenet

this spring, it took off. It appeared in many newsgroups, including alt.rap, rec.music.hip-hop and soc.culture.filipino, usually accomnamed by a call to boycott the designer Lies, dame lies and the Internet, Page 77

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Lies, damn lies Internet

CONTINUED FROM PAGE 75

The rumor was utterly false. Hilliger has never appeared on or taped an episode of Winfrey's show. But the legend spread so rapidly and epierated so much controversy among customers and potential customers that New York-based Hilfiger was compelled to respond on the 'net.

figer was compelled to respond on the 'net. The company intra Jone. McDenaid's Corp. in Oak Brook. Ill., just won a U.K. lithel case after spending an estimated \$5 i6 million fighting it over a seven-year persod. In a series of pamphlets, two vegetarians accused the fast-food company or everything from eradication of the world's jungles to alsaire of teen-are employees.

to abuse of teen-age employees.

The pamphicheering began before the rise of the Web, but the Internet was a major factor in the dissemination of the material An organization called McSpottight has a slick site (with mirror sites on several continent) that calls useff 'The biggest, loudest, most read Anti-McDonald's extravasanza the world has ever seen."

, The day after McDonald's prevailed in court. McSpotlight used its site (www.mcspotlight.org) to mock the verdict and call the anti-McDonald's

campaign "unstoppable."

For its expensive, lengthy effort (including 313 days of testimony). McDonald's was awarded the

equivalent of \$94,000.

An the McDonald's and Hilfiger cases, the information on the Web was nearly all demonstrably false (the British judge did hold a few of the ann-McDopiald's charges to be true). The case of the flaming Fords provides a more complex exam-

ple, in which spin and gray areas come into play. Early last year, the Goldgehns created the Association of Flaming Ford Owners, whose major draw was and is the Web site. "I don't consider it a Ford slam site," Ed Goldgehn says. But the home page features a picture of his burned-out truck against a buckground of fireballs. And although 8.7 million Fords eventually were recalled, the home page headline screams. "What caused this truck to burst into flames could happen to any of a6 million other Ford vehicles in the U.S. and Canadal' Here grassroots activism, misinformation and sioned spin-doctoring blur and shift. Ford's recall must be read as an admission of a problem And flamingfords.com has been credited by The Now York Times and CNN as a catalyst for the recall. Moreover, as Ed Goldgehn points out, the page includes none nerss releases, lists of Ford dealerships and a detion of the malfunction.

Bof the baciline overstates the number of recited evidence by among sports. He life Food ownen that if they park in a garage, they are reducing the life of the park in a garage, they are reducing. You for the park of the life of your farmed. You For its park, Ford basert pene conflue to combaffers in park, Ford basert pene conflue to combation of the life of the life of the life of the life park, Ford pedar-most joy Wolfe in Peathern, you for special penetral penetral penetral penetral dissistanticion are "no different planting lements on their car and divising it around the delateship." In the leftent to the efficiency planting lements on their car and divising it around the delateship." Unity Stoakes is one of them. To not respond on the 'net its momenterst.' says Sokakes, who is an Internet communications specialist at Middle-per (internet communications specialist at Middle-per (internet communications specialist at Middle-per (internet communications). The my forest on engiginger. Stoakes and others say Ford and most other large organizations and others say Ford and most other large corporations— long adept at protecting their image in traditional media— haven't stageted to internet communication. The 'net' is sway different.' says Midsael Velance, a communications consultant at Chicago-based. New Millemnium Consulting

says Michael Velanco, a communications consultant at Chicago-based New Millennium Consulting Group. "It's much higher speed. It's two-way." Stookes says, "When a customer types Ford' fin a search engine), they get this flaming Ford site.

a search engine), they get this flaming Ford site. We would suggest a rebutting statement from the chairman at Ford's own site."

Velaco says the situation should dictate transity. Sometimes you and to reported. Ye says. "Sometimes the Uncert conversation will poke resid." Tommy Helligar dictal wait. According to comparity policewoman Rush Pachman. As soon as the misseformation was brought to our attention." The congoung posted a statement to the appropriate energopary destring the allegations. The propriate consequency destring the allegations, mediate results." A look through the affected mediate results. "A look through the affected to a trickle. And when somehoody deep post it, a circum surrough post the dental in response. Although most Intermet rumors appear to result from a hewle's ignorance or a cheesed-off customer, this is a ripe area for industrial espiosage. All one needs is a shill with an electronic mail account to plant falsehoods in the proper newsgroups, and volks: a compretite fices a costly, embarrassing media ordeal, and perhaps a lour

fincal quarter or two.

Has it happend? "I've neen it happen," Stockes says, although he declines to name names. "A company gets a couple of people — maybe one each coast — to start a Usenet thread with a rumor about a competitor." He says small companies are more likely to play these dirty tricks

than large corporations.

If you think your company couldn't possibly be the target of a 'net smear campaign, think again. Plug in the name of your company or best-known product at the Usenet search engine DejaNews

(usuadejaneus.com), and you may be in for a rude surprise. Plug in "Disney," for example, and you'll see messages such as "Disney is anti-family" and "Ganowner: Join Baptist boycot of Disney!" There's even a whole Usener newsgroup devoted to blasts at Walt Disney Co. It's called alt disney.criticiam. How convenient.

Ulfolder is Computerworld's sonier editor. In Depth. His Internet address is store, ulfolder@cw.com.

Internet PR disaster plan

The following are smedited message headers pulled from a recent random surf through Lisunet nowsproups:

Best Buy is Consumer Unificingly (and Wel-Mart tool) CompUSA and leavy service contract DON'T BUY CHEVROLET! First Union Screws Loyal Castomers ATAT Decopive Practices — INOW THE FACTS! Help — MCI is trying to rob me of \$3x81 MATONS BANK A SORRY INSTITUTION BEWARE OF GE MICROWAYES This just In Microsoft Office's Sucks!

Do you know what people are suying about your company in cyberspace? Too many organizations don't, according to Unity Stockes, an internet communications specialist at Middleburg Interactive.

"I was been if a right communication communication are not as are. "Feer here communication communication are not as a result of the communication communication are not as a result of the communication are not as

under crises, and not one of them addressed the "set." (The companion wave Populos, Inc., Teacos, Inc., The Producted Internation Company of America and The Heart Corp.)
We need to machine year business stated upon the Internat and by proposed to respect should removing such
as the recent Heart Healther distants heldel one. Here we seem eleme to take:

Know the terf. Familiarize yourself with the newsgroups, mailing lists, that rooms and Web sites in which your organization is discussed. That wey, if misbeformation spreads, you'll know where and how to respond.

Don't underestimate. Secular advises trassing internet mainformation like a true made crists, responding thoroughly and immediately. But that's a controversial point in the public relations community (see main story).

Go to the source. Stosless says it's imparative to try to reach the individual or organization that bunches the attack. "Establish a dialogue," be says. "Document overpiling."

Mind your manners. When you request to an attack, follow the roles of 'uniquette, Lim private E-call before, or need a manage to a reason to the Company of the Company of the Company of the statement of the attacks, which there is you cannot be the attacks, and of the attacks, and of the attacks, and published to the attack of the attacks and will be immediately described and mediatel on the 'rank.

Propers a contingency Web site. Middleberg helps clients set up a template so that if disselve strikes, they can quickly hill their side of the story and provide links and facts to the media.

Muzzle your mouthplece. Seakes may beyon should be used as a last recent. He calls this the "Dorl and College analysis." Nothing rules the healths of the heal feath than a least forms. — Stee Wilder

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IT Careers

One year later, meet the IS class of 1996. They'be ambitious.

They're savvy — both in business and technical realms. They know what they want. And they've got the chutzpah to go for it.

By Alice LaPiante

NEWBIES ATTITUI

eter Troost was definitely an exception.
Like most of his fellow 1956 graduaLike most of his fellow 1956 graduaSchool of Management in Cambridge,
Mans, Troost was besinged with pile of
fers. They poured in from globul manaagement consulting firms. Not Interent nativegas and his ech pit reclusing to
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MBAs to preculate in information system management.

corporate IS job — as a project manager at The Gillette Co. in Boston.

"Virtually everyone else went into consulting." Troost recalls about the recruiting fremzy of a year ago. "They definitely thought was 'unusual' for making the decision I did." Thoust's reasons for accepting a position at Gillette centered

Thoose's reasons for accepting a position at Gillette centered on long-term career and lifestyle goals. With an eye toward moving up the sanks of IS to senior management—cheef information officer or chief knowledge officer—Troost had enough real world everience to evaluate all the available choices.

The state of the s

"I didn't like the travel or the long hours," Thoost says. "I had just gotte married, and I didn't want to be away from home all the time. And I believe in a healthy balance of work with personal interests. Gillette offered me all those things and more." Thoost's attitude is typical of the members of the Class of 1996. Although many chose the consulting route, all are welltered in both hussess and the Chondows. And they know what

they want from their careers.

Each 1996 graduate Computerworld spoke with offers the following universal advice to those pursuing an IS career path: Ask questions. Be picky. And know you're sitting pretty.

CONSULTING TRACK

Like most management IS majors who graduated last year from the University of Minnesota, Jessica Lowe had her poix of job offers. And like an increasing number of her fellow graduates, she chose a consulting firm rather than a traditional corporate IS shop — in her case, American Management Systems (AMS) in Fairfax, V.

Lowe says she felt AMS'promised her the best opportunity to learn new technologies and expand ber business knowledge. She says her expectations have been more than satis-

Since joining AMS, Lowe has completed two major miects One was a client/server application that monitors per-mits for waste water for Minnesota's Pollution Control

Agency. Lowe was responsible for development and testing on that project. Lowe is currently helping Shell Oil Co. convert a mainframe-based document management system that tracks Occupational Safety and Health Administration

guidelines to a client/server architecture. She has been involved with everything from design to development and is about to move toward testing the project. "It's been very exciting, actually going out into the field and seeing how the technology we're building is affecting people and businesses," Lowe says.

VARIETY OF EXPERIENCES Jason Wainstein chose his job as a systems analyst at Deloitte & Touche Consulting Group for similar rea sons. "I wanted the most varied experience I could get - not just in different technologies, but in different

company cultures and industries," he says. According to Wainstein, new IS grad 'in the lucky position of having choices. It's your responsibility to make the best and most-educated deci-

A 1996 computer science graduate from the University of Pittsburgh, Wainstein interviewed with more than 10 consulting firms before he eventually chose Delotte & Touche. "They offered the most autonomy and lity early on," he sa

Since joining the New York-based financial consu ing firm, Wainstein has been working on "Oregon Ac-" a customized client/server development project for the state of Oregon's Department of Human Resources. He has written a 500-page, five-year planning document, conducted requirements gathering sess

with users and has run release-system testing. He's done some programming in PowerBuilder and Sybase. Inc. databases, but the actual hands-on coding has been 'on the lighter side." he says. Since Wamstein lives in Philadelphia and his job asent is in Salem, Ose., "it's been an int mute," he admits. But he says Deloute & Touche has

been extraordinarily accommodating; he lives in a corrate apartment in Oregon during the week and has the option to fly home on weekends or have his girlfriend fly out to visit.

'At this point, I'm very comfortable with it," Wain stein says of the intensive travel. "I don't have chil I don't have a lot of ties. And I like seeing all the differ-

At Deloine & Touche, Wilnstein is heavily involved in the National Analyst Program, s recent multipronged development initiative. The program was designed to help entry-level business and systems analysts navig successful careers at the company. This includes formal training programs and quarterly meetings with analysts worldwide.

It also includes mentoring programs to make sure new hires get the career advice they need so they can be-come full-fielded consultants by the end of their third

year of employment. At that point, program participar can so back to school for an MBA — if they're endors by a senior member of the firm. "They provide the m ey and the laptop," says Wainstein, who intends to pur sue this educational benefit.

Like her classmates, lody Lembo interviewed with more than 10 prospective employers and received multiple

What made her choose Detroit Edison Co. was the six perior tritining offered to selected oew IS hires. She re-ceived heli bachelor's degree in business administration, with a major in management IS, in 1996 from Central Michigan University in Mount Pleasant, Mich. you've got a technical degree, you're in demand. Re-

member that, and don't jump too-quickly at that first offer," she says. Lembo was specifically attracted to the utility's twotate her through key IS departments and provide myriad

mal and external training courses. At the end of her two years, a professional me signed to her when she joined the company) will help her decide on a suitable permanent assignment Lembo's first rotation was supporting networked elec-tronic mail and calendaring applications; another rota

tion (her favorite thus far) was as a Unix systems admin "Although I knew I wanted a career in IS, I really wasn't sure what I wanted to do," Lembo says. "I fig-ured that two years in the working world getting a

chance to try different things was the perfect opportunity to find out." Among other training opportunities, Detroit Edison is paying for Lembo to earn her MBA through part-time classes at Wayne State University

A GREAT PACKAGE DEAL

hip while still in school, But Dem 'ast year earned an MRA with an i in Austin, offers compelling proof

A GREATION

Gooras' position as a senior business applications analyst at Federal Express Corp. came as a result of a sum-mer internship sha held at the international shipping titan during the summer of 1995.

"A lot of us interns from last summer came back as nent employees," Booras says. This happened in one of the hottest job markets for IS wockers in history, and among multiple firms that yied for the graduate services. Why FedEx? "The people are great, the work on

citing and challenging," she says. One of the main attractions of the new FedEx ap ons development facility, constructed last year in Las Colinas, Texas (just outside the Dallas metrop sres), is the opportunity to build a business and technol-

ogy culture from scratch, Booras says. though headquartered in Memohis, FedEx opthe Texas facility to help lure top-notch IT professionals to a centrally located and technically vibrant site that would focus on new product development. Some applications will still be developed at the Memphis IT hub, where all ongoing maintenance of existing FedEx infor

mation systems will also take place. Because this is a new site, we're all deeply involved in making important basic decisions about orga and inf astructure and are otherwise helping build the culture from the ground up," Booras says. She has spent the past year participating in intensive recruiting activities to staff the new IT development center. She also worked on cross-functional teams to solve the operat

al challenges of getting a new site up and running. Booras visited Memphis several times to tour the facil-

ities and become familiar with her IS counterpart there. She also makes frequent site trips to other FedE facilities and to customer sites. Last year, during the busy Christmas season, she rolled up her sleeves like

everyone else at FedEx and pitched in sorting package. "I now have a thorough grounding in operations," shi "I wanted to set down roots. And I very much enjoy ing loneterm working

eopie." nve Booras. FedEx

minars "and pretty much anything [else] I ask for," she Besides the technological

challenges, Boorus says it was working with the FedEx staffers that ultimately made her decide to accept the offer, "I wanted to set down roots. And I very much enjoy building long-term work-ing relationships with people," says Bookss, who rejec

Booras has been given th

ortunity for as much

heical training as she

needs, including Notes de-

oment classes, Java

ed several high-paying IT consulting jobs. As for long-term career goals, Rooras says, "I'm the wrong person to ask." One of the reasons she went with FedEx was that they promised her the chance to play a variety of technology-management roles.
"There are so many opportunities for those of us

who have both technical and business skills," Booras says, "I'm just now seeing all the possible

FINAL WORDS OF WISDOM

Most 1996 graduates felt well-prepared by their aca demic institutions for the IS working world. But noth ing, they say, beats on the job experience - particularly with regard to teamwork. Which means that a No. 1 priority of all current students should be to pick up busic nese skills and get an internal

"Everyone has a different way of looking a Unix systern. Detroit Edison does it one way; Chrysler does it another way. There's no way your college can teach that sort of thing," Lembo says. But she says Central Michigan did an excellent job preparing her for the fact that in the working world today, everything is done on teams. "It's been said a million times, but an internship is

essential," Wainstein says. "The most valuable thing you can do is immerse yourself in the real world. Troost says he found that "generalist" busine knowledge such as activity-based costing, economics

and basic negotiation concepts were essential. In his MBA program, where he could choose his 15 "electives and required course work, he chose to take some advanced classes to "managerial communitations," which focused on presentation, workshop facilitation and permusion skills.

"I've found these sorts of things are what can make the difference between whether you succeed or fail." Troost says, O

La Plante is a freelance writer in Woodside, Calif.

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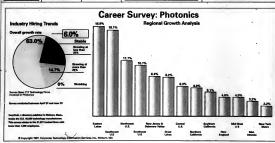
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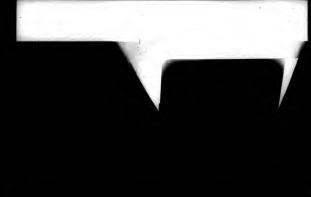
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ROMs will over users the Uni-

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integrated Unicenter TNG tools for software distribution, security, help desk and other functions. And if CA succeeds in gaining user attention, other tool sendors will be forced to make their products integrate with Unicenter TNG, analysts "Instead of joint back-scratch**Hobili battle for users**

e analysts remain simplical that CA's bid and serious efforts by perise management rivals HP and Tivoli will have much im-

"I don't see anyone becoming a leader any time soon," said Suz.
Addrich, management analyst at Patricia Saybold Group in Boston
"Everyone talks about washing entaryrise management, but no-body really is doing it."

payoff in efficiency, they are too hard to implement for a ment for a combi ion of reasons, said Ray Paguet, a research director at Cartner

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The "uphill battle" starts with a demand for new skills, menage-ment processes and organizational changes, Paguet said. Then a budget boost for theiring, more parts and staged relocul is required to get over the top before users can enjoy the benefits of the down-

move, because it will make Uniing, you'll see real partnerships develop now between CA and center TNG easier to deploy. the platform and software ven-And that means we'll benefit does," said another analyst who from it a lot sooner," said Mike was briefed. Altiero, manager of network ser-For example, Unison Soft

vices at American International ware, Inc. in Santa Clara, Calif., Underwriters in Livingston, N.I. will announce a version of Mae-stro, a tool for scheduling tasks The insurance underwriter is coordinating support staff at a6 sites worldwide to install agent throughout distributed environments, that will take advantage vare for Unicenter TNG. of the Unicenter TNG Frame-We'd like to save that effort by

having the basic pieces ship on servers," Albero said. For example, NCR Corp. reently announced plans to include Unicenter TNG on its

Analysts predicted that other systems vendors will follow suit

ed, he said.

this week, including HP and Sun Microsystems, Inc. C NT Workstation at this point in time is not warranted or justi-

Right now, it takes an entire

day to upgrade one notebook

user from Windows 95 to NT

Workstation and about five

hours to upgrade a Windows og desktop PC to NT Workstation

explained leff Dazell, IAN ad-

ministrator for network services



users can buy managementready servers from diverse hard-And users can expect software rs to be able to integrate, for the first time, their favorite

at CA-World '97 in New Orleans to announce plant to give away seven key parts of Unicenter TNG, according to users and in-

Popular servers and free CD-

specific announcements. This sounds like a good Microsoft Network on Version 5.0 to successfully encourage

Unison officials said a must

banking customer sought inte-

gration of Maestro with Unicen-

ter TNG to replace the suite's

Officials at CA, in Islandia

N.Y. declined to comment on

built in scheduler.

According to Mike Garten berg, an analyst at Gartner Group, Inc. in Stamford, Conn., NT Workstation implements tions are still 12% to 47% more expensive than Windows oc. based on the cost of upgrading hardware and other nonhard ware issues such as support and

But because the price of hardware has plummeted in the pust 18 months, cost is no longer the major impediment to up-

grading, accord ing to users. The smoothest desktop path

for corporate users is still Windows 95 to Windows 98. Gartenberg explained. Migration to Windows

at Dana Corp. in Toledo, Ohio. We're waiting for Windows NT co to fill these gaping holes before we convert our desktops. I want a smooth migration," Dahim flor [. Briscoe Stephens, advanced scientific systems coordinator at

NASA's Marshall Space Flight Center in Huntsville, Ala, The major obstacle (to mi-

grating to NT Workstation) for our 7,000 users is that the majority of the software packages we use still run only on Win os," he said. []

Windows 95 users to get an NT nudge

we'll ungrade on an as-needed basis and no faster," said Debo-rah Gillotti, chief information officer at Starbucks Coffee Co.

Microsoft is under no illus that a migration to NT Workstainstalled base of about 6 million users - will be even remotely

Fully 90% of its operating system shipments are still Windows os, and Microsoft doesn't expect that figure to change much throughout next year, said Jonathan Boberts, director of product sanagement for Windows or and NT Workstation

We will always continue to upport Windows 95 and Windows 98," Microsoft's forthcoming upgrade to Windows QC. Roberts said. "It is not Microsoft's strategy to force anyone to upgrade. Corporate edicts like that never work, and users will always do what they want."

ATTRACTIVE FEATURES Instead, Microsoft plans to adopt the carrot instead of the stick in its bid to drive the crossover from Windows 95 and the

forthcoming Memphis - the code name for Windows 98 -to NT Workstation, he said. It will do so with a series of nitiatives. Those lures will inchude a siew of management tools that are slated to be avail able when the operating system

Microsoft also will offer an pdated, nominally priced Win down NT to Resource Kit to

ease the upgrade and as-yet-unspecified "seeding programs" that likely will feature discount pricing and technical support promotions, Roberts said. Users said Microsoft must de

liver crucial functionality such as power management capabilities to support remote Windows NT laptop users. They said the company also

must deliver support for The 'The major obstacle [to migrating to NT Workstation? for our 7,000 users is that the majority of the software packages

we use still run only on Win 95." - J. Briscoe Stephens,

NASA's Marshall Space Flight Center

an affine fine is that a dark Couldant is restricted. A believe or grower in Fridging Companional (\$100 monethes) and well as a little could be a first that the could be a fi



What do Mars and Washington have in common? David Coursey

t first glance, the recent Supreme Court decision gutting the Communications Decency Act (CDA) would appear to have nothing in common with the Mars landing a week later. But actually, a little car rolling around on the red planet did an excellent job of proving from more than 90 million miles away that the Supreme Court justices just don't get it.

From the start, I was amazed at the Internet community's hand-wringing over the Exon/Costs Communications Decency Act, which was enacted as part of the Telecommunications Deregulation and Reform Act of 1996. Internet types just didn't seem to get the political games manship surrounding the bill.

Given the lip service Washington pays to "family values," it should have been obvious that supporting the act was a nolose proposition for congressmen. Sure, the American Civil Liberties Union would be upset, as would the politically enry, but that would be about as far as the wailing would go

die porn away from everyone) provided plenty of political cover, and the bill easily became law Even lawmakers who were against the censorship aspects of the CDA could vote for

it - safe in the knowl edge that the high court would undo the damage. Support-

upheld a lower court's ruling that the CDA blocks free speech and thus violates the First Amendment, It's dead, Droothe

CARTIAN MARIA I take you now from Washington to Mars

(not as big a leap as it may seem), where a spacecraft bounces 50 feet upon landing, eventually settling down to send us pictures of the martian rocks and sand. Pathfinder was, and is, Page One news all mania is fueled in part by the Internet. How

many million bits will NASA's Web site see? Will it be a billion be fore things calm down? Perhans. What we have ere is the first major event that mill people have shared over the Internet. As television fades from

center stage, the Web is sidling up to take ing the act was an easy decision for a TV's place as our nation's No. 1 source of shared experience. In the future, some-Right on schedule, the Supreme Court thing won't have happened if it hasn't

So it isn't exactly a mystery that IS

Compare that to the year 2000 busi-

nium bugs, it may gain big finan-

I'm not talking about

nies that under

ness problem: If your company fixes its

out. That's why year 2000 expenses are showing up as a line item in corporate fi-

cial benefits. If not, the company d The financial guys have figured this

shops have a hard time unearthing year

happened on the Internet.

Which returns us to nine people wi en't Internet-literate vet get to make all

the big decisions. In striking down the CDA, the Su-reme Court rejected an argument that the Internet is like television or radio. both of which face limitations on what

can be broadcast. No, the justices decided, the 'net is like person to person con-versation and deserves full free speech protection as such. The truth is, the Internet is both these things, but the duality isn't so obvious that the justices could Maybe next time someone tries to regulate the Internet (which I think is an ab

solute necessity), the lawyers will und tand its true nature - that the 'net is both a personal communications and a broadcast medium — and regulate each accordingly. Let's stop using the Interset as a way to win political points and find speech and our society.

Coursey, an analyst and consultant, is editor of "coursey.com," an online neurlette conflable at prove coursey.com. His E-mail address is devid@courses.com.

Year 2000: Business executives catch the fever Frank Hayes

he woman on the telephone was amazingly cheerful, considering our gloom-and-doom topic was the year 2000 problem. She said her company's project to fix the millennium bug might slip its schedule a little. But except for one major system, everything should be done by the end of December.

That's December of this year. No won-

der she was cheerful. There wasn't any magic involved in that insurance company's year 2000 fix. Those folks didn't acquire a cutting edge mechanical mangler to fix their code or depend on some guru with a mystical sense for what needed to be fixed. Nope. They just analyzed the prob

budgeted the project and did the work. Oh, yeah - they started more than a

The year 2000 problem isn't hard to fix. All you need is time. You find each place that makes reference to a year. You make sure that reference won't cause a em when 1999 rolls over to 2000. Then you go on to the next reference. And repeat. Ad nauseam.

As a technical problem, that sounds mindnumbingly, lobotomizingly dull. Who would choose to come in to work, day after day, to crank through anoth pile of date fixes? Not the best and the brig

est. Not even the dumb and the dullest As a project, the year 2000 fix makes a great career swamp for IS managers. It's

bugely expensive. It will take months (if you're lucky) or even years. It adds no significant value to the business (well, except survival). It isn't going to excite users or make the CIO look good in front of the board

software vendors that sell year 2000 tools. These are banks, manufacturers and insurance stand that dealing with the year aooo problem is a business advantage right now.

Investors are likely to prefer companies that won't involuntarily self-destruct on Jan. 1, 2000. That means a company's year 2000 work is very interesting stuff in the

ancial world. Result: If they don't have it already our top management will soon be creaming for their own year 2000 line em for the annual report.

That's the same top management that couldn't be bothered six months or a year ago. The same board that wanted to find a scapegoat to blame for the problem.

and a silver bullet - or preferably a cheap, silver-plated builet - to fix it. Is that stupid? Sure. Does the IS staff resent it? Probable. But reality is that a combination of an

uninteresting problem, zero-profit proj ect and clueless executive team has allowed the year 2000 to grow from a nuisance to a catastrophe m the making.

Yes, it should have been started a year or more — ago. It should have been done as part of other projects. It should have had full management support and a proper budget. You should have been able to talk cheerfully about your year

None of that happened. That stinks But you've got to fix the millennium bug yway. While you're at it, puzzle over that dis

connect between technical nonussue and siness crisis. Otherwise, if will give you grieflong after 2000 is gone. (1)

Henes is Computerworld's staff columnist His Internet address is frenk_heper#cm.

The Back Page

WIRELESS KEYBOARD FOR LAID-BACK BROWSING

ink Electronics in Camerillo, Calif., has introduced a sleek input davice for what it calls the relaxed, "sit back and browse" style of computing. The VersaPoint Wireless



Usenet ferums

* The following are recent Usenet newsgroup discussion threads found on the Internet. You may be able to pick up the thread by enterine keywords at the search eneine www.deamous.com.

· History of the C prompt (alt folklore.computers)

*What makes OOP good? (comp.object) The work environment and programmer productivity (comp.software-ens)

· Your first word processor (alt.folklore.computers)

Traveling with laptop: What about customs? (comp.sys. lamonst

The pegative effect of CASE tools (comp.programming) Monitoring suspicious "root" activity (comp.security.misc)

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librarian Director of knowledge management and

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${ m Inside}$ Lines

Hard to swallow

nMTh eal didn't result in a truce as much as a g

Some refugees from Lotus are brying to replicate the story of Notes on the Web. Institution Schnologies, a Camil Mass., start-up hashed by two ferrent Lotus essentiates, and will issuech Effeon, Internet-based collaboration software in Web Issuech Int. 1861.

Universal no more

ers." Oracle "just sort of got o

SAP help coming ASAP

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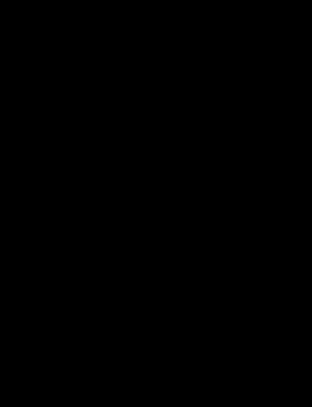
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Telemedicine for M*A*S*H units

Hawkeve Pierce never had it so good. The Pacific Northwest National Laboratory in Richland, Wash., and U.S. Army researchers have developed a portable medical device that takes ultrasound unages of wounded soldiers at battlefield hospitals. The images can be transmitted via the Internet for diagnosis and analysis by medical experts elsewhere. The system was designed to analyze internal bleeding and puncture wounds. but the same technology could be used by rural hospitals and rescuers in remote locations



latinum Software last week filed suit against Platinum Technology, claiming Platinum Technology's product branding, Internet domein name and marketing material may confuse "potential customers, business partners, industry and financial analysts and others." Because Platinum Software deals with clent/server financial accounting software and Platinum Technolagy with database and systems management software, we would hope analysts and business partners could tell the difference. But considering Platinum Software's financial woes vs. Platinum Tech nology's success, the company may want to bag the lawsuit and ride the name confusion to renewed profes. We don't core whos your nome is, if you have a news tip, contact news editor Pasacio Keefe at (508) 820-8183 or patricia_lasefe@cu.com.



The Back Page

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and (\$160) combines an SI-key ard with a touch and

or Internet brown-

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